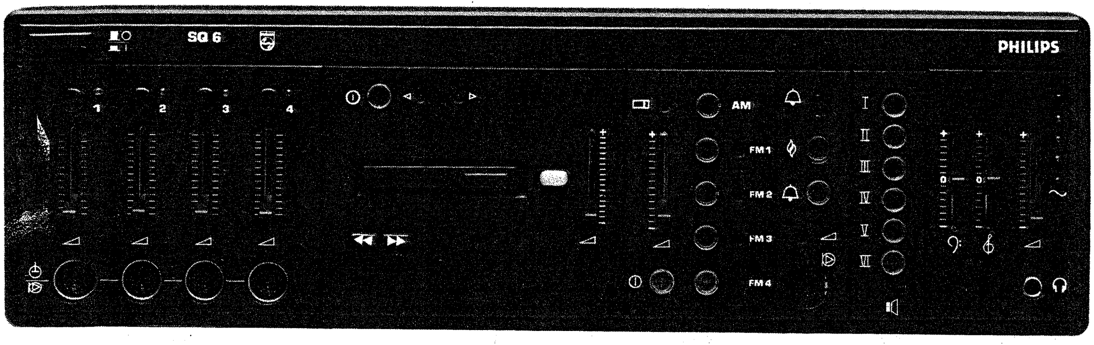
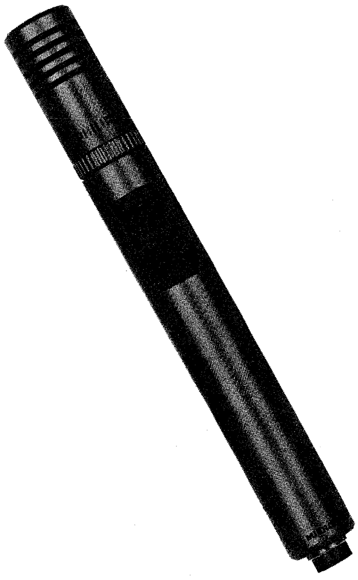
Modular Public Address Centre SQ6

FIRST LINE SERVICE MANUAL


SQ 6
PHILIPS
1
2
3
4
AM
FM 1
FM 2
FM 3
FM 4
I
II
III
IV
V
VI

PHILIPS
LBB 9053/01
1
2
3
4
5
6
1-6



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AUG '81			

PHILIPS

SQ6

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1 Introduction

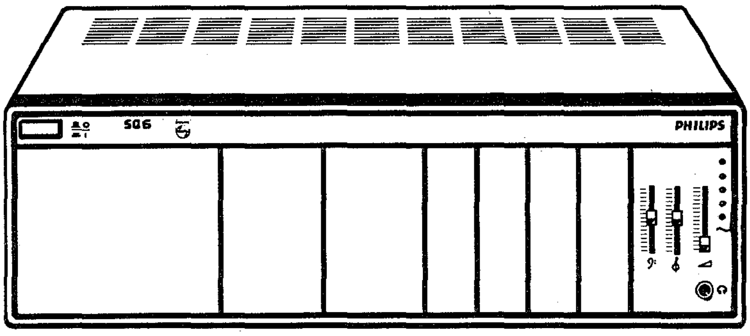
The Philips SQ6 modular public address centre consists of the central amplifier cabinet for a new generation of sound reinforcement equipment plus an associated range of function modules and microphones. Not only does it provide the correct method of achieving many application possibilities but it is also quick to install and simple to operate. The ingenious modular design allows sophisticated systems to be easily built by the dealer or by the customer himself.

The functions of the individual modules and the combinations of modules have been chosen to cover all known public address requirements.
Alarm signal, a choice of two or four tone attention signals, time signal, automatic universal multi-channel inputs with selectable priorities, remote control and zone selection for loudspeaker groups are only some of the functions incorporated in the module programme.

These functions and especially the inclusion of the zone selection function make many system configurations for many application areas possible.

During the assembly of the central unit and during its installation no special tools are normally required. Each module is supplied with all necessary mounting accessories and is fitted with its interconnection cable and connector. Only in some cases is a screwdriver or a pair of cutters needed.

The integrated electronics and the novel mechanical construction place the SQ6 system ahead of its time.



GENERAL

Before starting any service work on the amplifier the mains plug must be disconnected from the mains supply.
For safety reasons it is not sufficient to only switch off the amplifier, as some parts that can be touched will still be "Live".

Because of the high mains current in the 200 W amplifier the mains switch is used as a single pole switch with double contacts. Mains voltage can therefore be present on the primary side of the transformer, even after the amplifier has been switched off.

WARNING: This equipment must be earthed !

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.
This applies especially for those parts marked with the sign ⚠

SERVICE PHILOSOPHY

As a "replacement" service for modules has been agreed upon for the SQ6 amplifier program, the actual service work is limited to "first line" servicing, except for the main printed circuit board (p.c.b.) where full service will be given.

A check list is provided for each module so that, when fault finding, a decision can be made as to whether the fault lies on the module or on the main p.c.b.

Amplifiers

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2 Amplifiers

2.1 DESCRIPTION

The SQ6 amplifier range contains three power amplifiers, LBB 1262/00 50W, LBB 1263/00 100W and LBB 1264/00 200W. Each amplifier can be employed as a conventional P.A. power amplifier stage by itself or used in conjunction with its family of input and output modules.

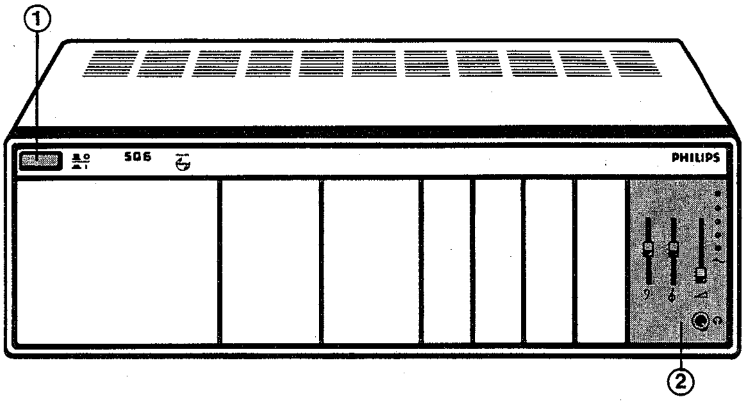
The fundamental characteristics of these amplifiers are

- high continuous power rating with low distortion.
- full protection of the power output stage/transistors.
- protected against any misloading.
- output voltage protected against damaging loudspeakers.
- protected against damage caused by inadvertent or deliberate misuse.
- very good performance (see technical data).
- protected against high frequency radio interference.
- easy to use output connectors.
- ease of servicing because of the modular concept and the type of connectors employed.
- during installation no special tools are required.

Each amplifier consists of a cabinet with a special front panel which has been designed to accommodate the various (input and output function) modules.
The "master" module LBB 1272/01 is a standard fitting on each amplifier and provides, in addition to the master volume control, a sliding control for both treble and bass, a built-in limiter plus an LED indicator and a headphone socket so that the input signals can be monitored. See Fig. 1.

The SQ6 public address centre is switched on and off by means of the push button switch ① shown in Fig. 1.
When the amplifier is on, the green LED lamp on the master module (which is a standard fitting on all SQ6 amplifiers) is on. ② Fig. 1.

Within the amplifier cabinet is the power supply section, the output transformer and the main printed circuit board. The printed circuit board is the heart of the SQ6 amplifier system and contains all the necessary mutual connections and logic that are requirements between the amplifier and the modules.
On the underside of the amplifier is an interconnection socket which can be used for the connection of a booster amplifier. A right-angled DIN plug (5 pole 180°) must be used for this connection. Details of this special application are available from your local Philips' agent. The amplifier output has three voltages tappings, namely 100V, 70V, and 50V. Connections to the loudspeakers are made via a Mate-N-lok connection block on the rear panel (① in Fig. 2). There are also extra mounting positions on the rear panel for additonal connection blocks (② in Fig. 2) and an aerial socket (③ in Fig. 2).



LBB 1262/00 50 W
LBB 1263/00 100 W
LBB 1264/00 200 W

Fig. 1

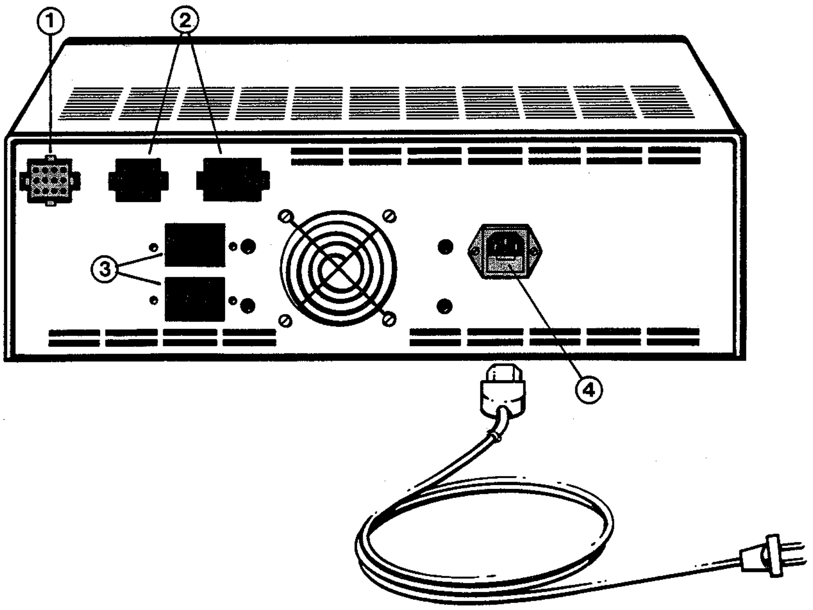


Fig.2

On delivery, each SQ6 amplifier is supplied with the following items;

- 15x Mate-N-lok pin terminals
- 3x Mate-N-lok socket terminals
- 1x 12-way Mate-N-lok connector block kit
- 1x Mate-N-lok ejector tool
- 1x Mains cable (2.5 m long)
- 1x Label for different mains voltages and fuse values.
- 1x System Handbook

Each Philips SQ6 public address centre is assembled to meet one of a vast number of applications.
Full operating instructions are therefore given for each module type, not for each application.

2.2 INSTALLATION

Opening the amplifier (See Fig. 3)
Disconnect the mains plug **1** from the mains supply before removing the amplifier's cover. For safety reasons it is **not** sufficient to only switch off the amplifier.
To open the amplifier, first unscrew the slotted screw **2** on each side of the amplifier's case and then remove the cover **3** by raising its rear and pulling it backwards.

Mains voltage
On delivery, the amplifier is ready for use on 220V 50/60 Hz mains. The amplifier can also be operated with a mains supply voltage of 110, 127 or 240 Volts. In all these three cases, the wiring to the mains transformer **must** be changed according to the instructions given on a label attached to the transformer. For 240 V operation, the blue wire on the transformer must be removed from the lower tag on the transformer marked 220 V and connected to the upper tag marked 240 V.

For 110 and 127 V operation, one soldered wire link must be removed and replaced with two new wire links as indicated on the transformer label. The selection of 110 V or 127 V is made by connecting the blue wire to respectively the lower or upper transformer tag.
Note: for operation on both 110 V and 127 V the mains fuse (④ in Fig. 2) **must** be changed according to table 1 and then the appropriate label packed with the amplifier must be cut out and stuck over the existing label on the rear panel. A label is also supplied for 240V operation.

The amplifier is supplied with a 2.5 m long mains cable fitted with a three pole mains cable socket at one end and a two pin mains plug with earth contacts at the other end. In some countries it will be necessary to replace the mains plug with one of a local standard type. A replacement plug must be wired as follows:

Earth — green/yellow
Neutral — blue
Live — brown

Warning: This equipment must be earthed.

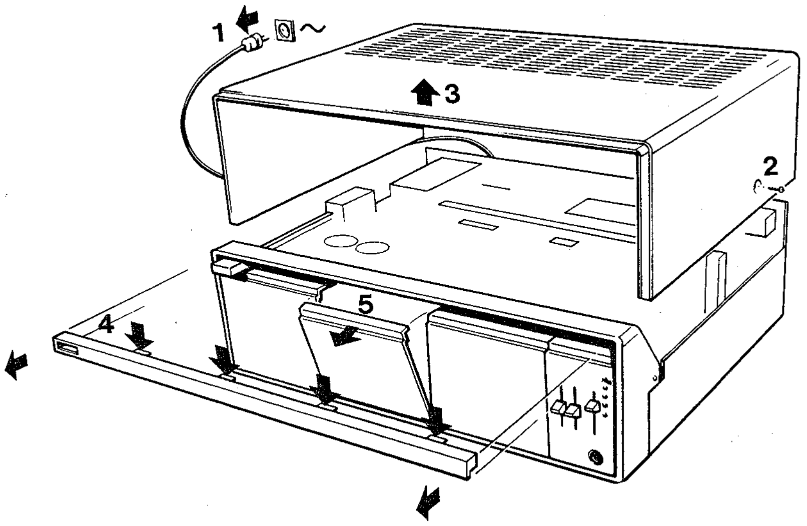


Fig.3

Table 1

	110/127 V	220/240 V
LBB 1262/00 - 50 W	3.15 AT	1.6 AT
LBB 1263/00 - 100 W	4 AT	2.5 AT
LBB 1264/00 - 200 W	6.3 AT	6.3 AT

Mounting modules
Prior to mounting modules the amplifier's cover and the locking bar **4** as shown in Fig. 3 must be removed.
Details of the location possibilities and the electrical connections are given in the following chapters for each module.

All modules, which form the amplifier's front panel, are mounted to the front of the amplifier in the same manner. The lower edge of each module is shaped so that it will engage in one or more of a series of slots on the lower front edge of the amplifier. Once engaged in this slot the module is simply tilted into an upright position and held in place by the locking bar.
Once the modules are fitted, the empty spaces should be filled with blank modules, the locking bar replaced and the cover repositioned and secured with its two screws.

N.B.
On all modules using ribbon cables, the connector with the longer pins should be inserted only in those connectors that can only be reached through the printed circuit board.

Cooling
Under all situations, a space of about 10 cm (4") in depth must be left clear at the rear of the unit to ensure adequate ventilation. The ventilation slots on top of the unit should be kept uncovered.
Do not place the amplifier in direct sun light or near any heat source.

Output connections
See chapter 12 Loudspeakers.

2.3 TECHNICAL DATA

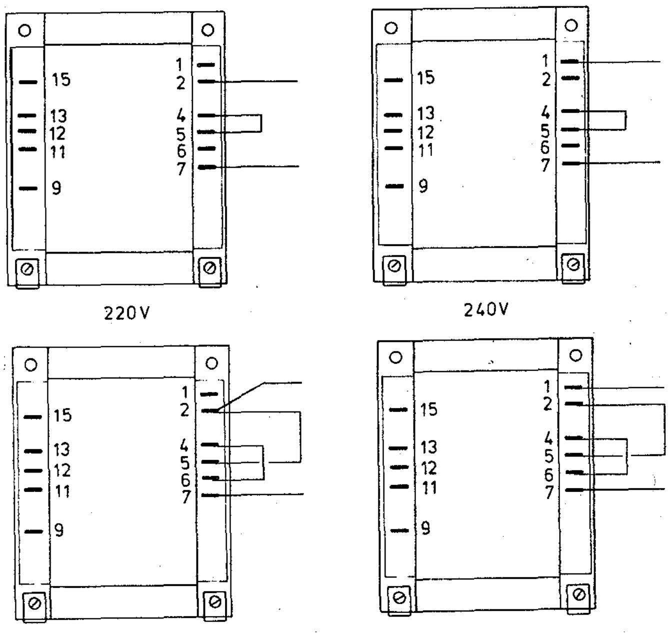
500 mV			**Input sensitivity**
LBB 1262/00 50W	LBB 1263/00 100W	LBB 1264/00 200W	**Rated output**
			Power consumption
150W	260 W	430W	Full load
20W	25W	40W	No load
100V / 70V / 50V			**Output voltage**
70-15000 Hz (−3 dB)			**Frequency response**
≤0.7%			**Distortion (at 1 kHz)**
≥ 80 dB			**Signal-to-noise ratio** related to nominal output
≥ 50 dB			* **RF immunity** (0.15-480 MHz with 30% AM at 1 kHz)
			* **Environmental conditions**
−10°C to +45°C			**Operating temperature**
−40°C to +70°C			**Storage temperature**
≤ 95%			**Relative humidity**
			* These apply to the amplifier in combination with any of the SQ6 modules and microphones.
140 x 435 x 340 mm			**Dimensions** (H x W x D)
420 mm 14 x 30 mm = 14 E			**Module mounting space** (E = width of the smallest SQ6 module)
LBB 1262/00 - 11.4 kg LBB 1263/00 - 12.3 kg LBB 1264/00 - 15.8 kg			**Weight**

2.4 MAINS VOLTAGE ADAPTION

On delivery the amplifiers are connected for use with a mains supply of 220 V.

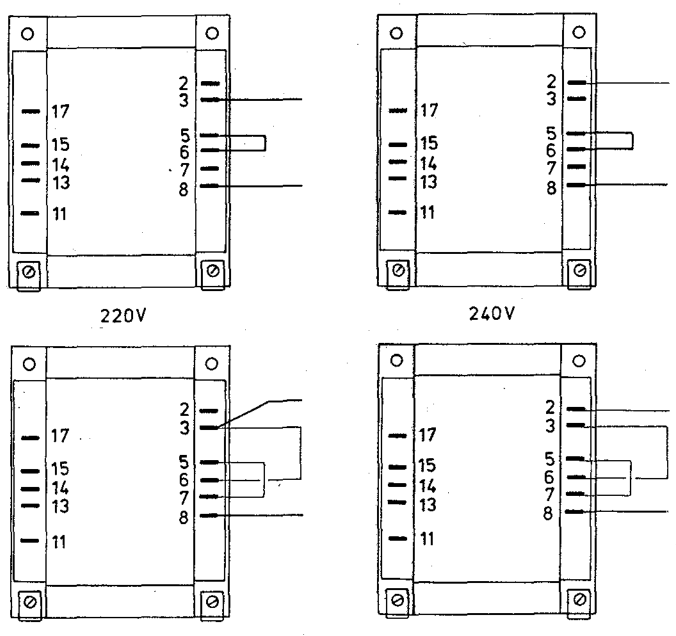
For operation on 110, 127 or 240 volt, the wires on the mains transformer have to be resoldered according to the diagrams below.

The values of the fuses, together with their service code numbers, are given in the table.


15
13
12
11
9
1
2
4
5
6
7
220V
240V
110V
127V

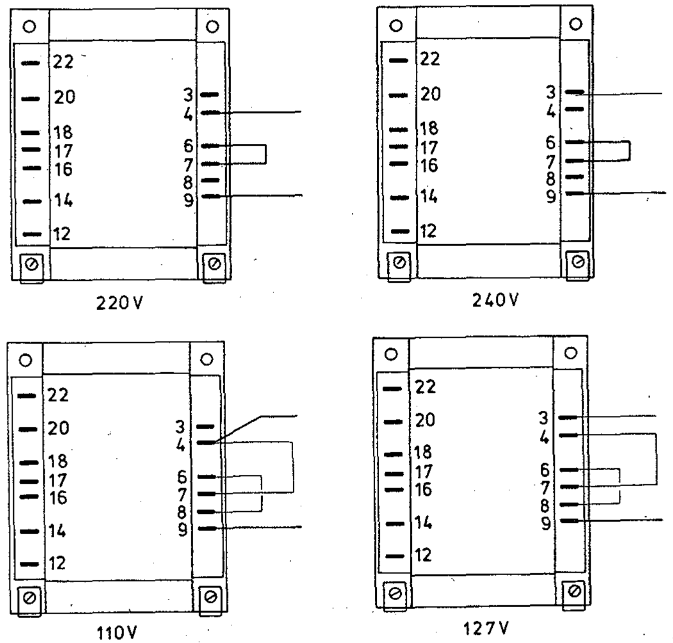
LBB 1262/00 (50W)

EVE 5918


17
15
14
13
11
2
3
5
6
7
8
220V
240V
110V
127V

LBB 1263/00 (100W)

EVE 5917

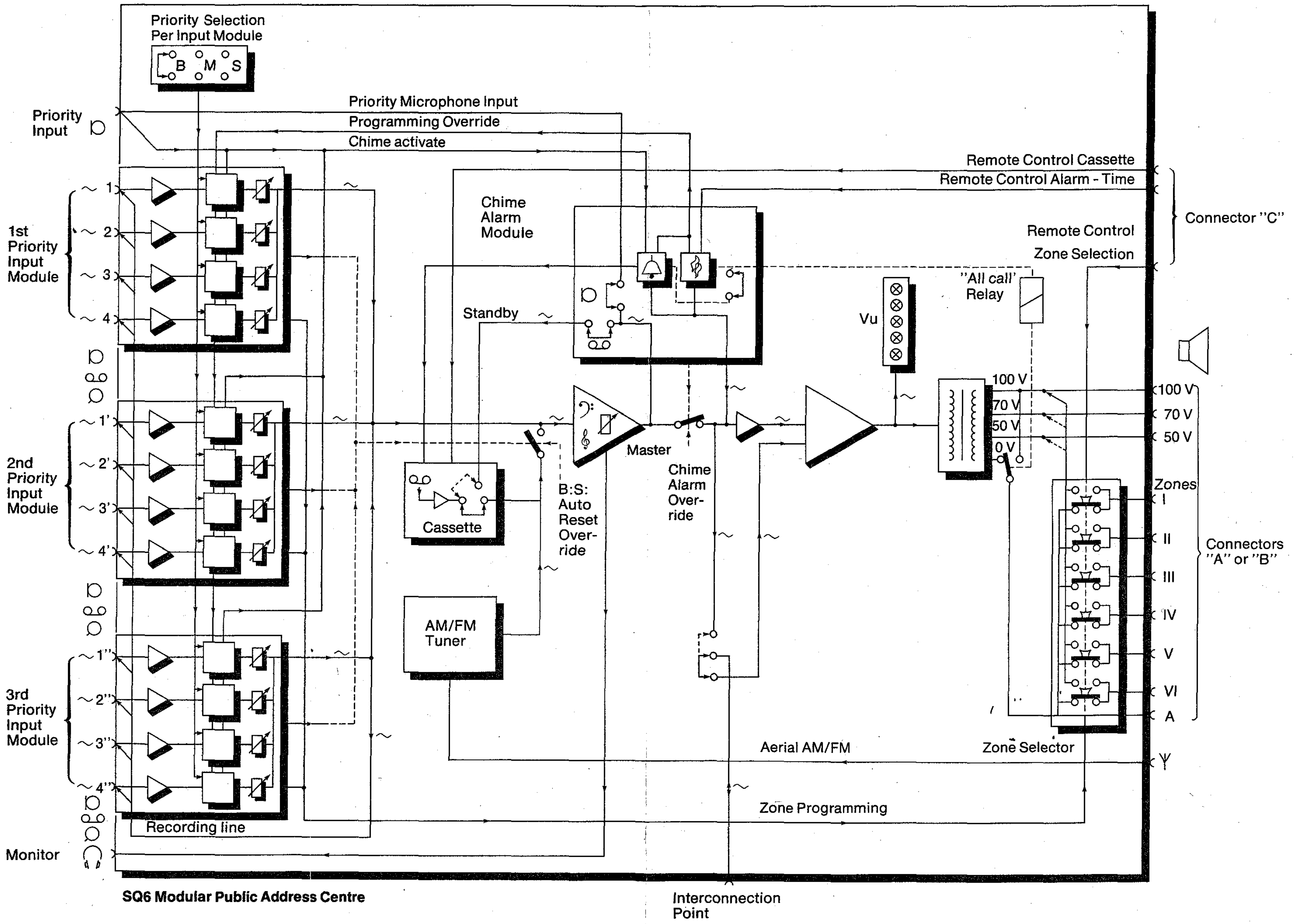

22
20
18
17
16
14
12
3
4
6
7
8
9
220V
240V
110V
127V

LBB 1264/00 (200W)

EVE 5916

	110/127 V	220/240 V
50 W	3,15 AT 4822 253 30027	1,6 AT 4822 253 30024
100 W	4,0 AT 4822 253 30028	2,5 AT 4822 253 30026
200 W	6,3 AT 4822 253 30031	6,3 AT 4822 253 30031

2.5 BLOCK DIAGRAM


Priority Selection
Per Input Module
B M S
Priority Microphone Input
Programming Override
Chime activate
Priority Input
Remote Control Cassette
Remote Control Alarm - Time
Connector "C"
Remote Control
Zone Selection
1st Priority Input Module
1
2
3
4
Chime Alarm Module
Standby
"All call" Relay
Vu
2nd Priority Input Module
1'
2'
3'
4'
100 V
70 V
50 V
0 V
100 V
70 V
50 V
Master
Cassette
B:S: Auto Reset Over-ride
Chime Alarm Over-ride
Zones
I
II
III
IV
V
VI
A
Connectors "A" or "B"
AM/FM Tuner
3rd Priority Input Module
1"
2"
3"
4"
Aerial AM/FM
Zone Selector
Zone Programming
Recording line
Monitor
Interconnection Point

SQ6 Modular Public Address Centre

2.6.1 Description of module input and control section (see diagram 2.8)

The switching of the LF signal from any input source to the power amplifier stage, is controlled by a digital circuit in order to give the desired mode of operation.

The operation mode is partly determined by a fixed built-in priority circuit but can also be pre-programmed so that the input channels have the desired mixing or priority status with respect to one another.

Signals on input channels with a low order of priority can be switched off by the activation of input channels with a higher priority.

Logic levels:

I. The logic levels for most digital IC's in the SQ6 system are:

0 V = high
-8 V = low

II. At those places where the L.F. signal has to be controlled, IC's are used which function as analog switches. The control of these switches is done with logic drive signals according to the following table

+8 V = HIGH (switch closed)
-8 V = LOW (switch open)

III. The interface between the normal IC's with 0/-8 volt signals and the switches with +8/-8 volt signals is carried out via so called "translator IC's" (T). The logic levels for these IC's are:

INPUT	OUTPUT
high 0 V	+8 V HIGH
low -8 V	-8 V LOW

L.F. Signal path:

All L.F. signals from the input modules connected to the connectors X11, X12, X13 are mixed in a network of 10 kΩ resistors. Via switch IC4B the L.F. signal is applied to IC5.

The signals from the tuner and the cassette player are also mixed in a network of 10 kΩ resistors and fed to IC5 via switch IC4A.

The resulting L.F. signal on the output of IC5 is applied to the master module and to the connectors X11, X12 and X13 to serve as an output signal for external tape recording (TO).

After the master module, the L.F. signal is applied to IC6 via the switches IC4C and IC4D. The L.F. signal from the chime/alarm/input module connected to X17 is also applied to IC6.

Logic control signals:

The cascade priority between the connectors X11 → X12 and X12 → X13 is carried out by a control signal RO via an AND-gate to the RI input of the next module.
The RO signal is only generated in the B or S programming mode and when a channel is activated. In the mixing mode the RO output has a fixed level, independant of the on or off status of the input channels.
During alarm/priority-input the input channels are switched off by a command via IC2C to connector X11 and via AND-gates to X12 and X13.

The combined override signal on the output of IC1C switches off the tuner and cassette player signal via IC3B to IC4A and the other input channels via IC3A to IC4B (see table).

During alarm, the normal L.F. signal is disconnected by IC4C via IC3C - D32 - TS11 from ST2 output on X17. The alarm (all call) relay is also energized via IC10. During priority-input the normal L.F. signal is disconnected by IC4C via IC3C - D31 from ST3 output on X17.

During alarm, priority-input and chime, the L.F. signal is disconnected by IC4D via IC3D from ST1 on X17 (see table).

I.C. connection		Input channels X11, X12, X13		Priority Input	Alarm
		Channel off	Channel On		
5IC3B	B	0	-8	-8	-8
	M	0	0	-8	-8
	S	0	-8	-8	-8
3IC4A	B	+8	-8	-8	-8
	M	+8	+8	-8	-8
	S	+8	-8	-8	-8
4IC3A	M*	-8	-8	-8	-8
	B/S*	0	-8	-8	-8
6IC4B	M*	+8	+8	+8	+8
	B/S*	-8	+8	+8	+8

Remarks: M* 1x, 2x or 3x "M" programmed, even when the associated connector is not used.

B/S* only B and S programming in any combination

IC connection	M* programming	B/S* programming
4IC2B	-8	0

IC connection	Normally	Priority input	Alarm
11IC3C	-8	-0,4	-0,8
11IC4C	+8	-8	-8
12IC3D	0	-8	-8
14IC4D	+8	-8	-8

2.6.2 Description of power amplifier section (See diagrams 2.9.2, 2.10.2 and 2.11.2)

The signal from the input modules is applied to pole 2 of IC6. This IC ensures impedance matching to IC7.

To suppress troublesome switch-on and switch-off phenomena (e.g. clicking), the L.F. signal to IC7 is momentarily coupled to earth via TS9, because, during switching, the influence exerted by the +8 V supply on the base of TS9 is greater than that of the -8 V supply.

Outputs 2 and 12 of IC7 provide the positive and negative portions of the L.F. signal to the bases of output transistors TS1/TS2 (Darlington transistors).

For the 100 W version TS3/TS4 are in parallel with TS1/TS2 and for the 200 W version TS5/TS6 are in parallel with TS1/TS2 and TS3/TS4.

The quiescent current of the output stage(s) can be set by means of R6 (see adjustment instructions).

Transistors TS7 and TS8 are provided to protect the output stage. Incorrect matching of the output (e.g. short circuit) will cause the current through the output stage to increase to an inadmissably high value. This results in the voltage drop across the emitter resistors becoming so high that TS7 and TS8 become conductive causing the signal at the bases of the output transistors to be short circuited via the diodes.
Capacitors C13 and C14 ensure that, after removal of the short-circuit, the signal will be gradually restored.

A safety circuit is provided to prevent the output voltage from increasing to an inadmissably high value.
The L.F. signal on the primary side of the transformer is rectified. If a given a threshold value is exceeded, conduction will take place through zener-diode D19 and potentiometer R29. The LED included in this circuit will illuminate more brightly as the driving voltage is increased, which results in the ohmic resistance of the LDR decreasing and the input signal being attenuated.

The LED bar at the front of the master module (LBB 1272/01) is driven by the signal of the output stage via diode D33.

The interconnection socket BD1 on the bottom of the amplifier can be used to drive a booster amplifier ("slave").
On delivery the jumper block S5 on the main p.c.b. is placed in the position a-c as drawn in the circuit diagram and ensures that the L.F. signal is present as an output signal via the interconnection socket.
The L.F. signal can be adjusted between 0 and 500 mV with the master volume control.

If a second SQ6 amplifier is used as a booster amplifier, the jumper block S5 has to be placed in the position a-b to accept incoming signals from the interconnection socket to IC6.

2.7 ADJUSTMENT INSTRUCTIONS

1. Offset

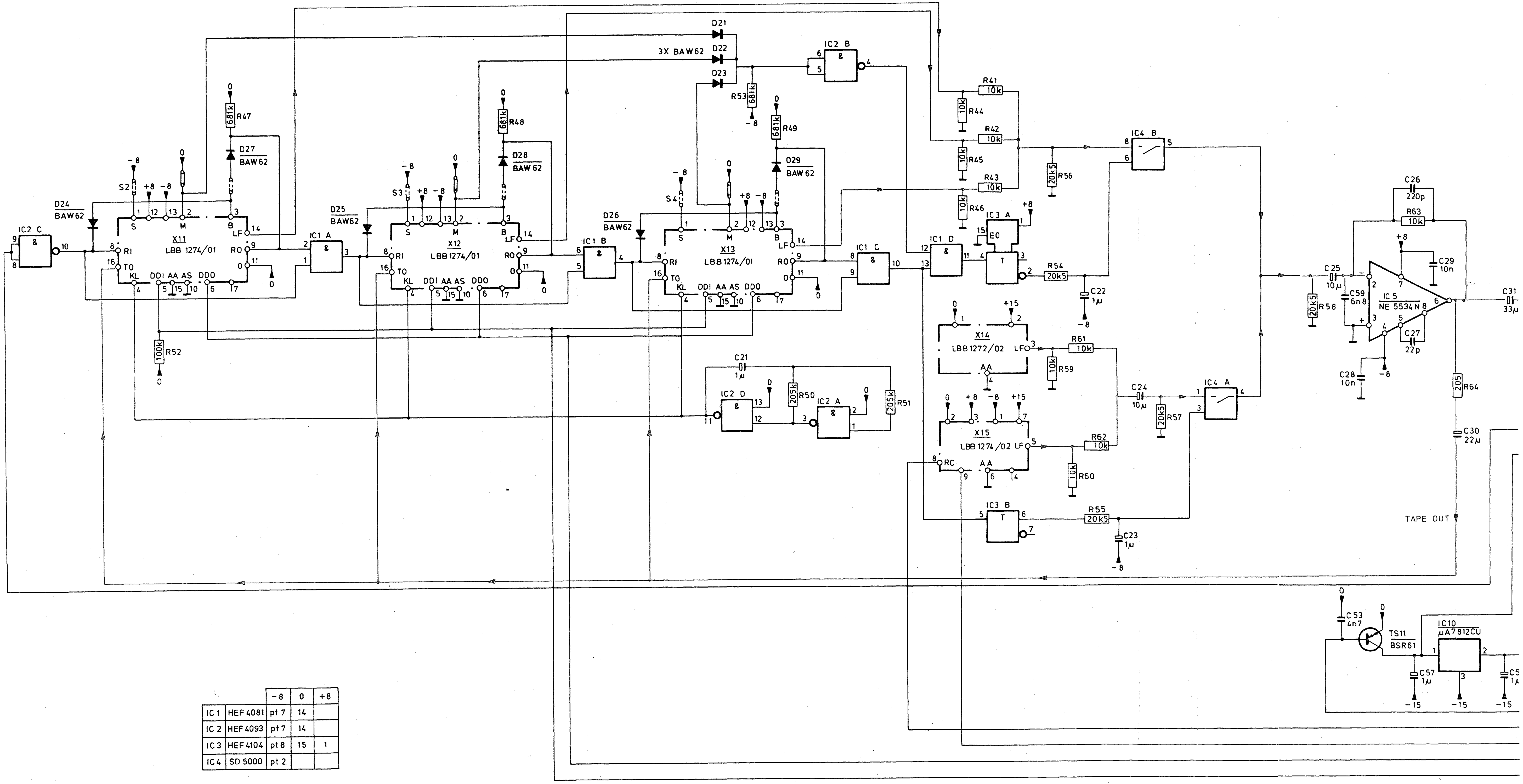
In the quiescent condition, the d.c. component through the output transformer must not exceed 10 mV. (tags 1/2 and 6/7 on the output transformer.)
If necessary, IC7 has to be replaced.

2. Quiescent current

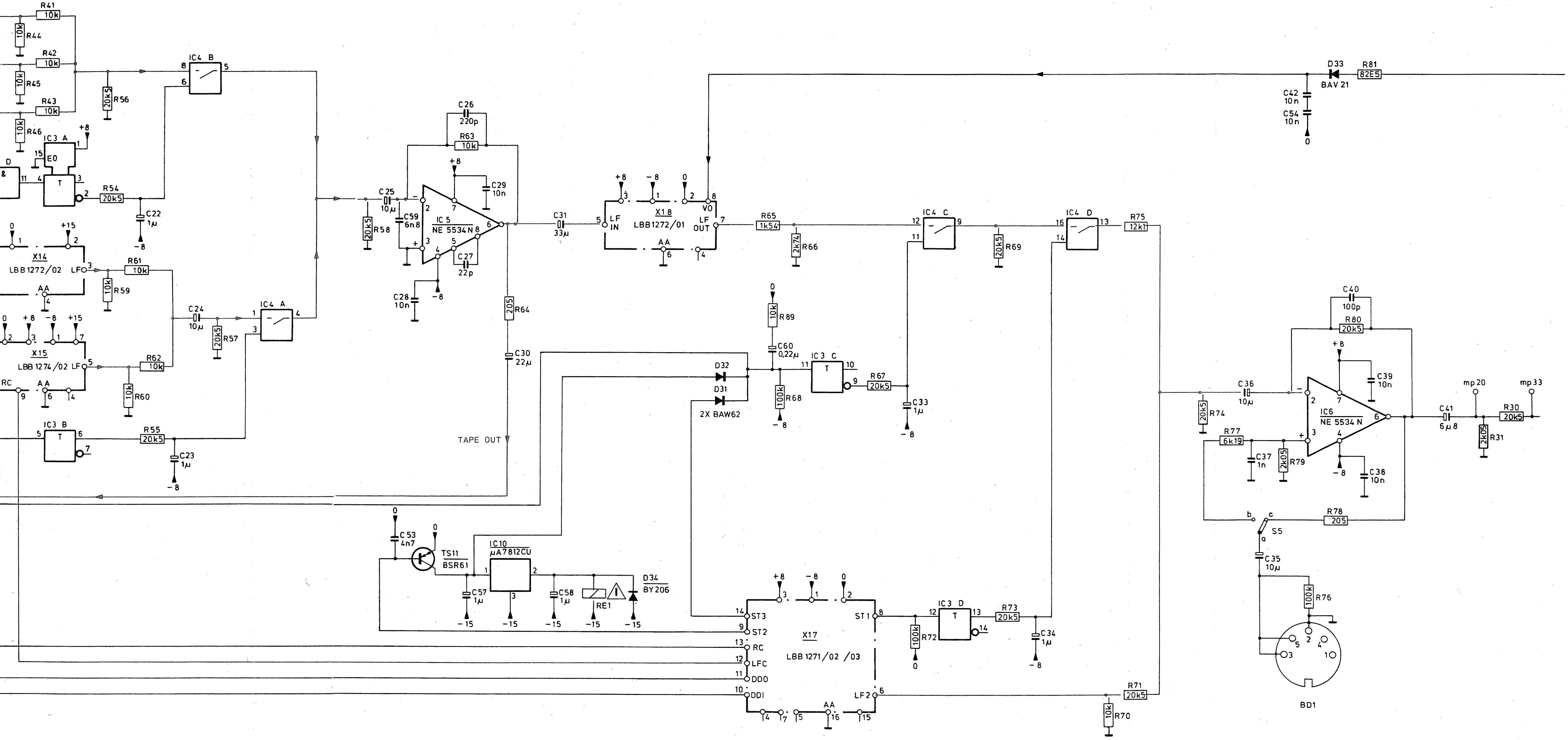
The quiescent current of the output transistors should be set on 50 mA per stage by means of R6. The voltage drop across the emitter resistors is then approximately 25 mV for the 50 W and 100 W amplifiers, and approximately 10 mV for the 200 W amplifier.

3. Maximum output voltage

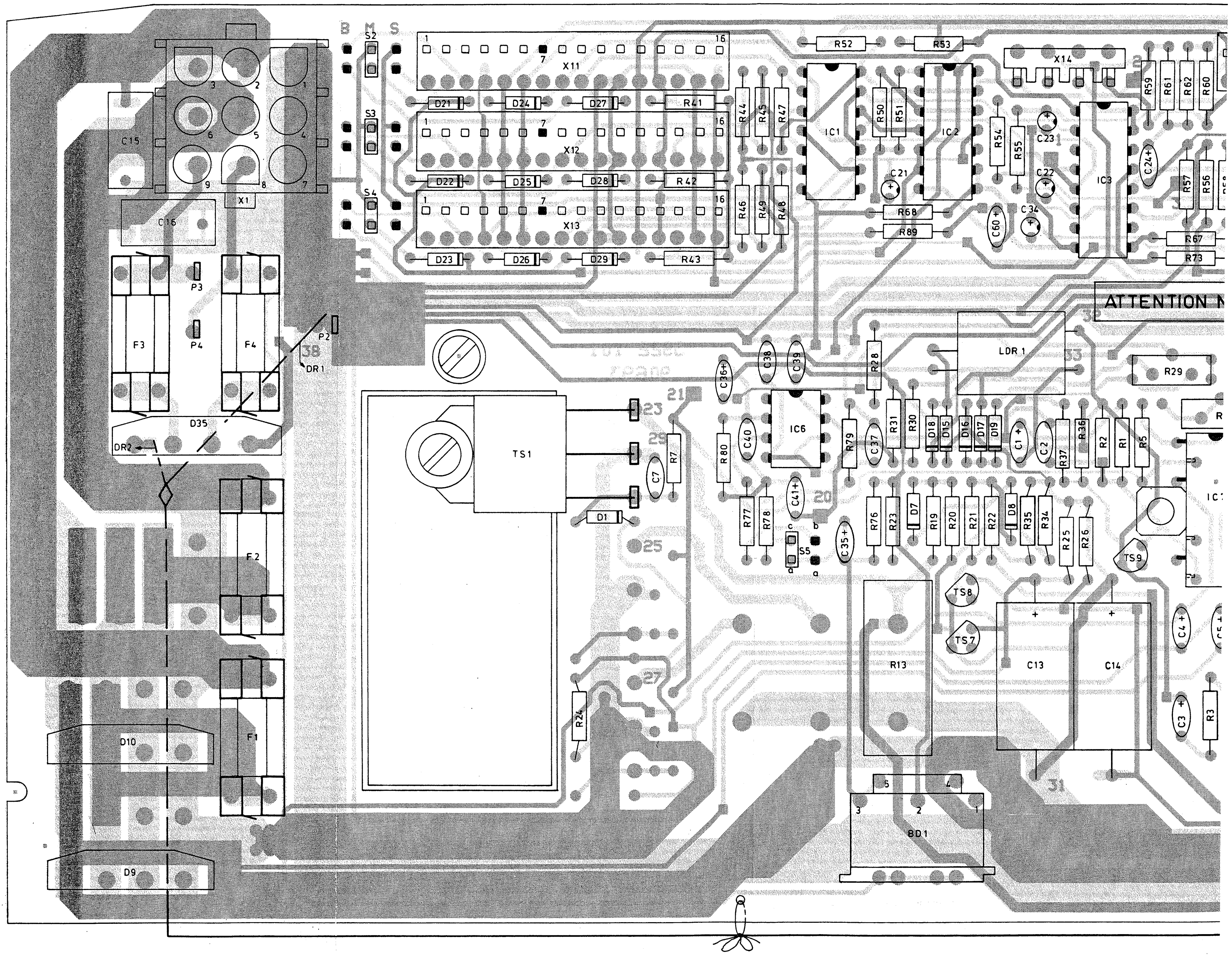
At an L.F. signal of 5 volts applied via C36 to IC6, the output signal (100 V output, no-load) must not exceed 130 V.
This can be adjusted by means of R29.

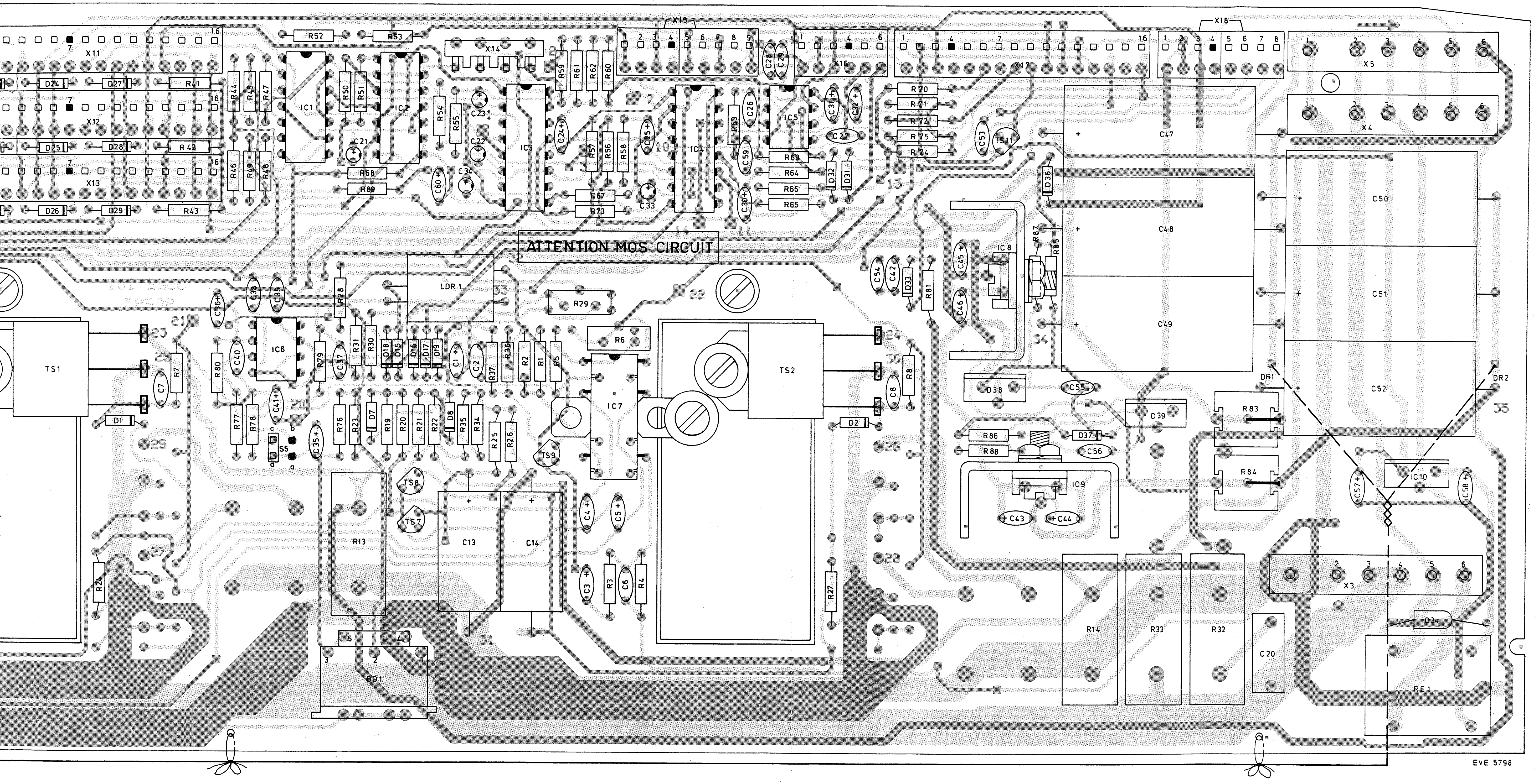

IC2 C
D24 BAW62
X11 LBB 1274/01
R47 681k
D27 BAW62
S2
IC1 A
D25 BAW62
X12 LBB 1274/01
R48 681k
D28 BAW 62
S3
IC1 B
D26 BAW62
X13 LBB 1274/01
R49 681k
D29 BAW 62
S4
D21
3X BAW62 D22
D23
R53 681k
IC2 B
IC1 C
IC1 D
R41 10k
R44 10k
R42 10k
R45 10k
R43 10k
R46 10k
R56 20k5
IC3 A
E0
R54 20k5
C22 1μ
IC4 B
X14 LBB 1272/02
R61 10k
R59 10k
X15 LBB 1274/02
R62 10k
R60 10k
C24 10μ
R57 20k5
IC4 A
IC3 B
R55 20k5
C23 1μ
R52 100k
C21 1μ
IC2 D
R50 205k
IC2 A
R51 205k
C25 10μ
R58 20k5
C59 6n8
C26 220p
R63 10k
C29 10n
IC5 NE 5534 N
C27 22p
C28 10n
C31 33μ
R64 205
C30 22μ
TAPE OUT
C53 4n7
TS11 BSR61
IC10 μA7812CU
C57 1μ
−15

		−8	0	+8
IC 1	HEF 4081	pt 7	14	
IC 2	HEF 4093	pt 7	14	
IC 3	HEF 4104	pt 8	15	1
IC 4	SD 5000	pt 2		

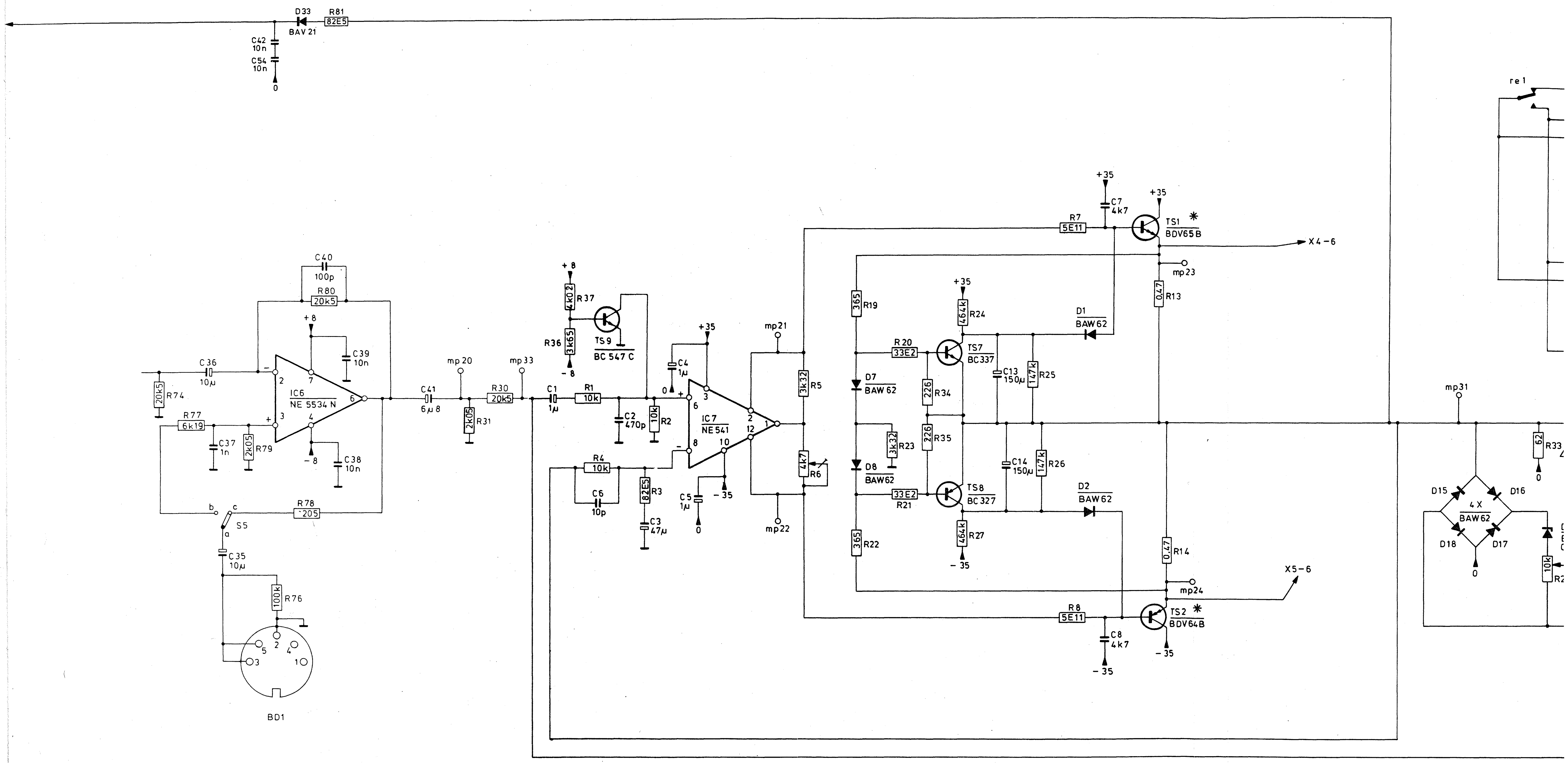

R41 10k
R44 10k
R42 10k
R45 10k
R43 10k
R46 10k
R56 20k5
IC4 B
IC3 A
E0
+8
D
&
T
R54 20k5
C22 1µ
-8
+15
X14
LBB 1272/02
LF
AA
R61 10k
R59 10k
C24 10µ
R57 20k5
IC4 A
+8 -8 +15
X15
LBB 1274/02 LF
R62 10k
R60 10k
RC
IC3 B
R55 20k5
C23 1µ
C26 220p
R63 10k
C29 10n
C25 10µ
R58 20k5
C59 6n8
IC5
NE 5534 N
C27 22p
C28 10n
R64 205
C30 22µ
TAPE OUT
C31 33µ
LF IN
X18
LBB1272/01
LF OUT
V0
R65 1k54
R66 2k74
IC4 C
R69 20k5
IC4 D
R75 12k1
D33 BAV 21
R81 82E5
C42 10n
C54 10n
R89 10k
C60 0,22µ
IC3 C
R67 20k5
C33 1µ
R68 100k
D32
D31
2X BAW62
C40 100p
R80 20k5
C39 10n
C36 10µ
R74 20k5
IC6
NE 5534 N
R77 6k19
C37 1n
R79 2k05
C38 10n
C41 6µ8
mp 20
mp 33
R30 20k5
R31 2k05
R78 205
S5
C35 10µ
R76 100k
BD1
C53 4n7
TS11 BSR61
IC10 µA 7812CU
C57 1µ
C58 1µ
RE1
D34 BY206
-15
ST3
ST2
RC
LFC
DDO
DDI
X17
LBB 1271/02 /03
ST1
LF2
IC3 D
R72 100k
R73 20k5
C34 1µ
R71 20k5
R70 10k

2.8 SQ6 MODULE INPUT AND CONTROL SECTION

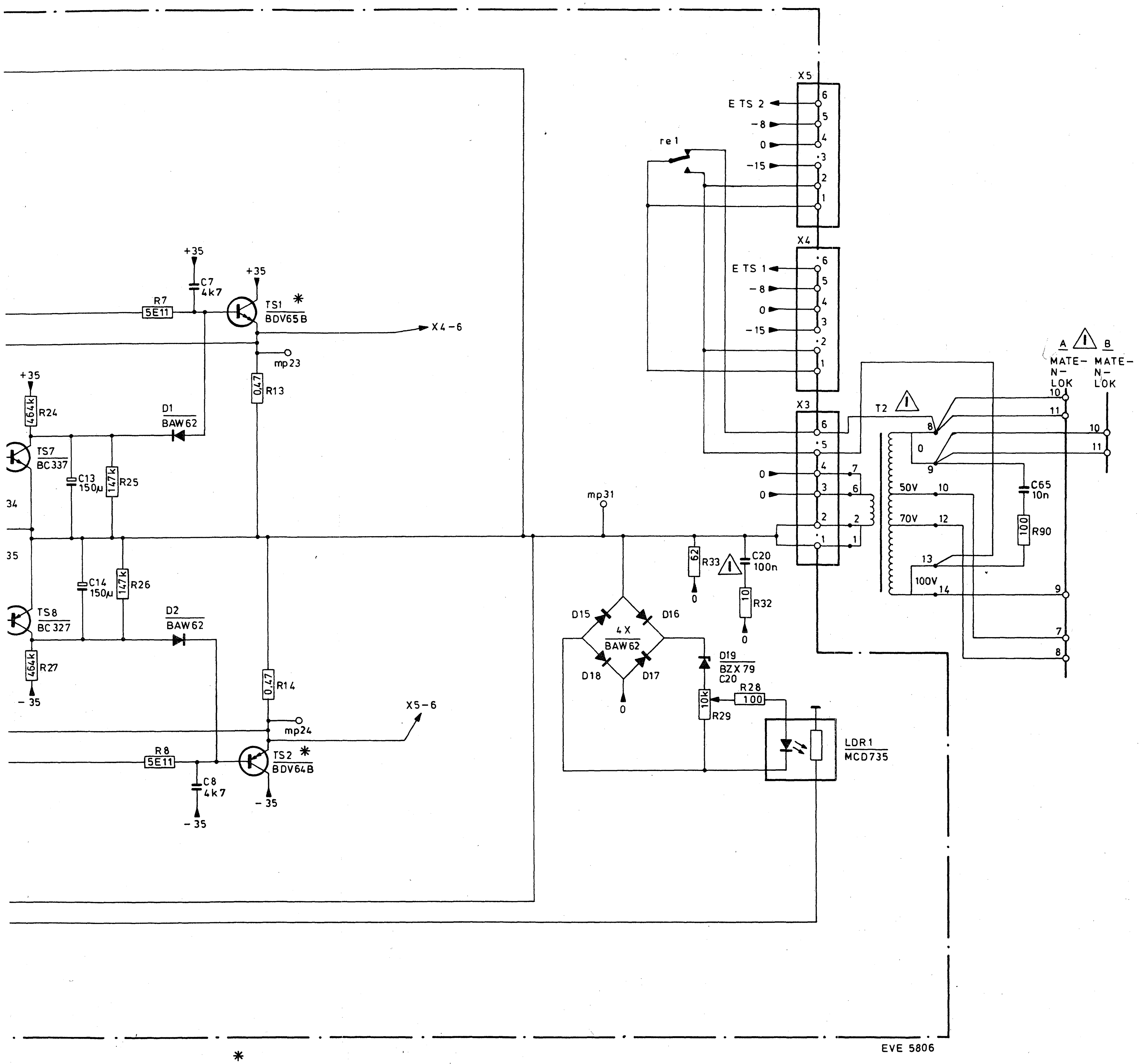

B
M
S
S2
S3
S4
X1
X11
X12
X13
X14
C15
C16
P2
P3
P4
F1
F2
F3
F4
DR1
DR2
D35
D10
D9
38
D21
D22
D23
D24
D25
D26
D27
D28
D29
R41
R42
R43
R44
R45
R46
R47
R48
R49
R50
R51
R52
R53
R54
R55
R56
R57
R59
R60
R61
R62
R67
R68
R73
R89
IC1
IC2
IC3
IC6
C21
C22
C23
C24+
C34
C60+
ATTENTION N
LDR 1
R28
R29
C36+
C38
C39
C37
C40
C41+
C35+
TS1
TS7
TS8
TS9
D1
23
29
21
20
25
27
R7
C7
R79
R80
R77
R78
R76
R23
D7
R19
R20
R21
R22
D8
R35
R34
R25
R26
R31
R30
D18
D15
D16
D17
D19
C1 +
C2
R37
R36
R2
R1
R5
IC1
S5
a
b
c
R13
C13
C14
C4 +
C3 +
R3
R24
BD1
1
2
3
4
5
31
33


ATTENTION MOS CIRCUIT
X11
X12
X13
X14
X15
X16
X17
X18
X5
X4
X3
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
LDR 1
TS1
TS2
TS7
TS8
TS9
TS11
BD1
RE1
DR1
DR2
C13
C14
C20
C47
C48
C49
C50
C51
C52
R13
R14
R32
R33
R83
R84
D38
D39
D34
EVE 5798

2.9.1 PCB LAYOUT
LBB 1262/00


D33
BAV 21
R81
82E5
C42
10n
C54
10n
0
re 1
C40
100p
R80
20k5
+8
C39
10n
C36
10µ
R74
20k5
IC6
NE 5534 N
R77
6k19
C37
1n
R79
2k05
-8
C38
10n
b
c
a
S5
R78
205
C35
10µ
R76
100k
BD1
C41
6µ8
mp 20
R31
2k05
R30
20k5
mp 33
C1
1µ
R1
10k
+8
R37
4k02
TS9
BC 547 C
R36
3k65
-8
C2
470p
R2
10k
R4
10k
C6
10p
R3
82E5
C3
47µ
+35
C4
1µ
0
IC7
NE 541
C5
1µ
0
-35
mp21
mp22
R5
3k32
R6
4k7
R19
365
D7
BAW 62
D8
BAW62
R23
3k32
R22
365
R20
33E2
R21
33E2
R34
226
R35
226
+35
R24
464k
TS7
BC337
TS8
BC 327
R27
464k
-35
C13
150µ
C14
150µ
R25
147k
R26
147k
D1
BAW62
D2
BAW 62
+35
C7
4k7
R7
5E11
+35
TS1 ✱
BDV65B
X4-6
mp23
R13
0.47
R14
0.47
mp24
X5-6
R8
5E11
C8
4k7
-35
TS2 ✱
BDV64B
-35
mp31
R33
62
0
D15
D16
4 X
BAW 62
D18
D17
0
10k

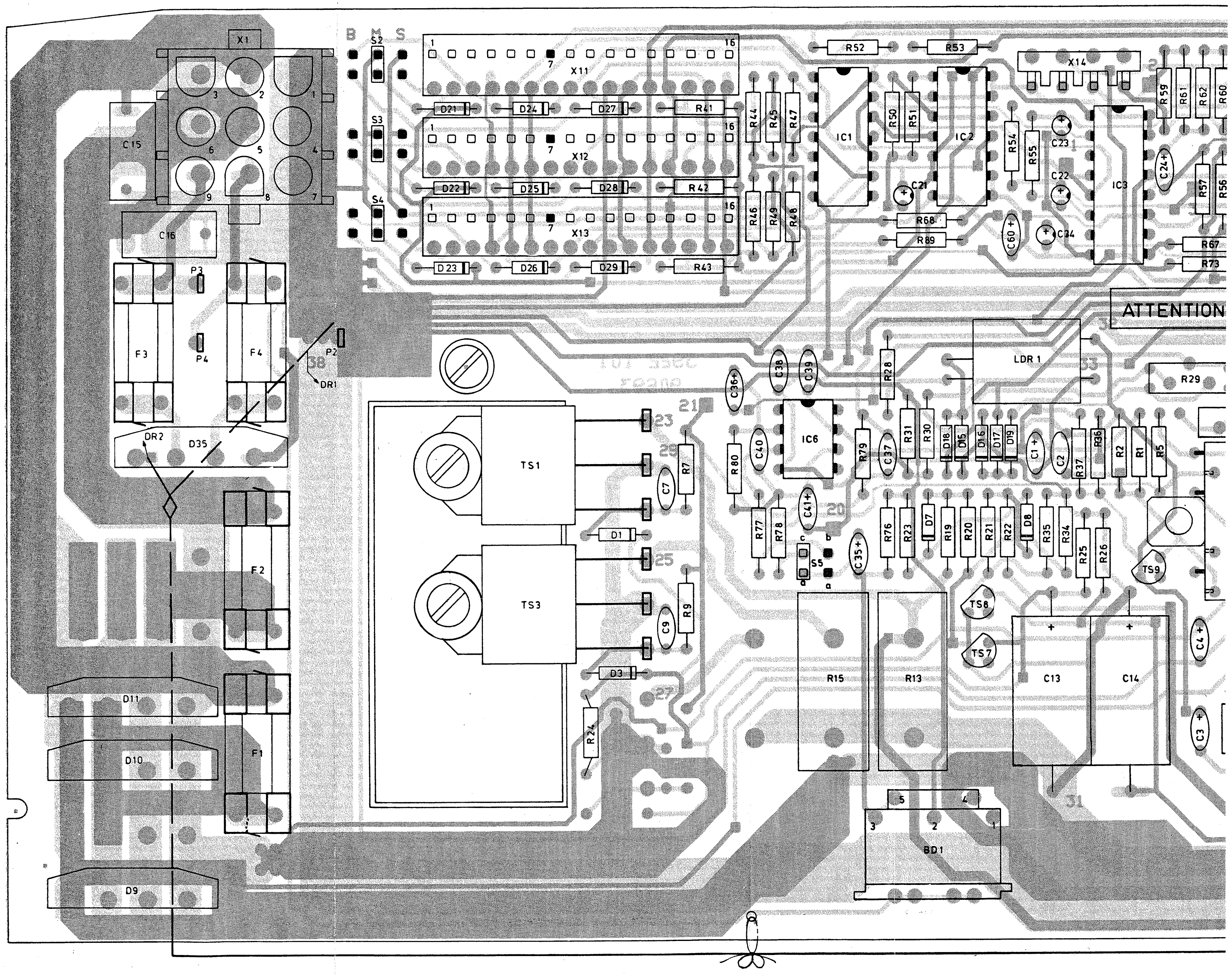
✱
TS1 / TS2 SELECTED PAIR

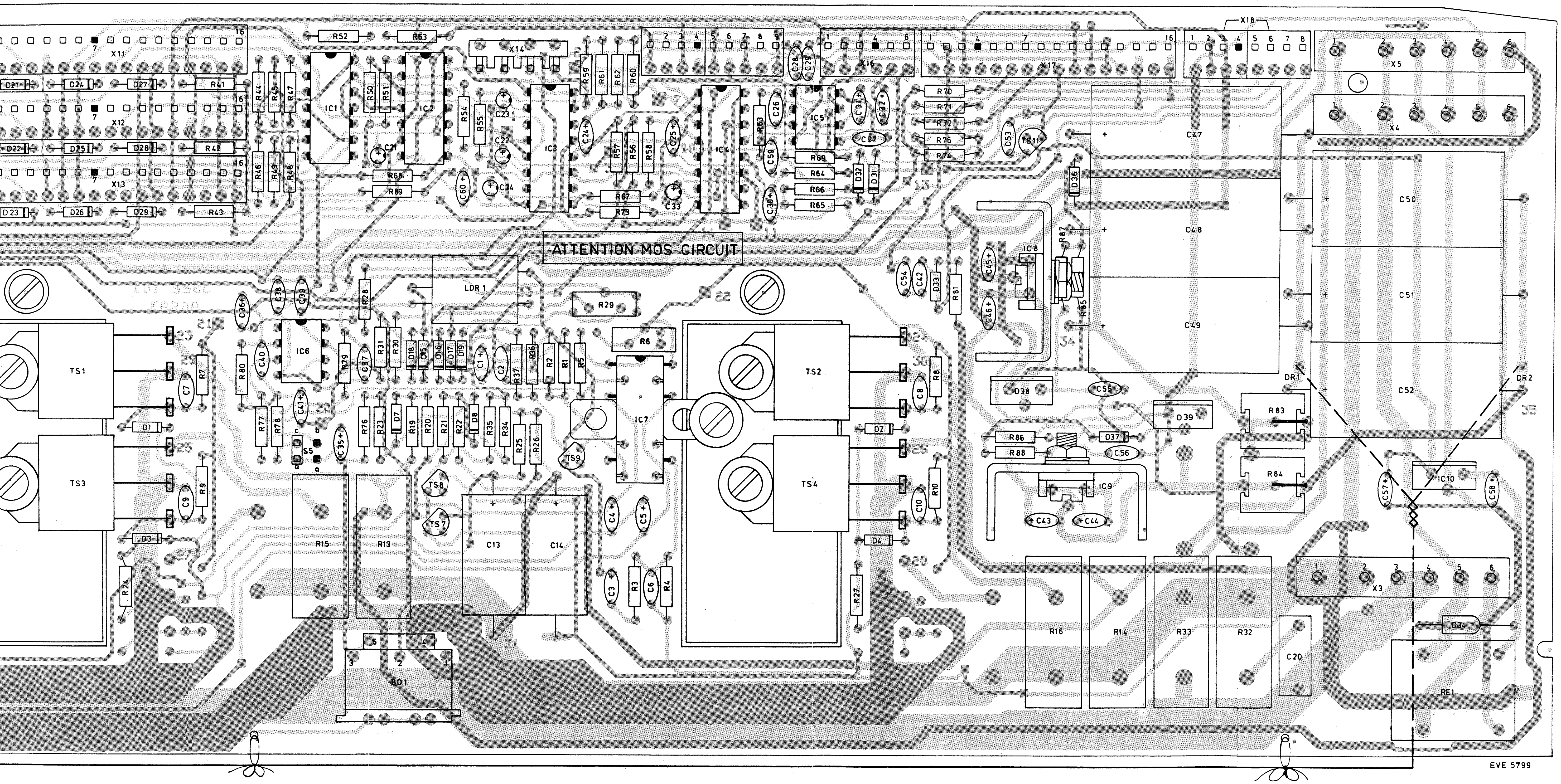

X5
E TS 2
-8
0
-15
re1
X4
E TS 1
X3
T2
0
50V
70V
100V
C65
10n
R90
100
A B
MATE-N-LOK
MATE-N-LOK
+35
C7
4k7
R7
5E11
TS1 *
BDV65B
X4-6
mp23
R13
0,47
R24
464k
D1
BAW62
TS7
BC337
C13
150µ
R25
147k
34
35
mp31
R33
62
C20
100n
R32
10
C14
150µ
R26
147k
TS8
BC327
D2
BAW62
R27
464k
-35
D15
D16
4X
BAW62
D18
D17
D19
BZX79
C20
R28
100
R29
10k
LDR1
MCD735
R14
0,47
mp24
X5-6
R8
5E11
TS2 *
BDV64B
C8
4k7
-35

EVE 5806

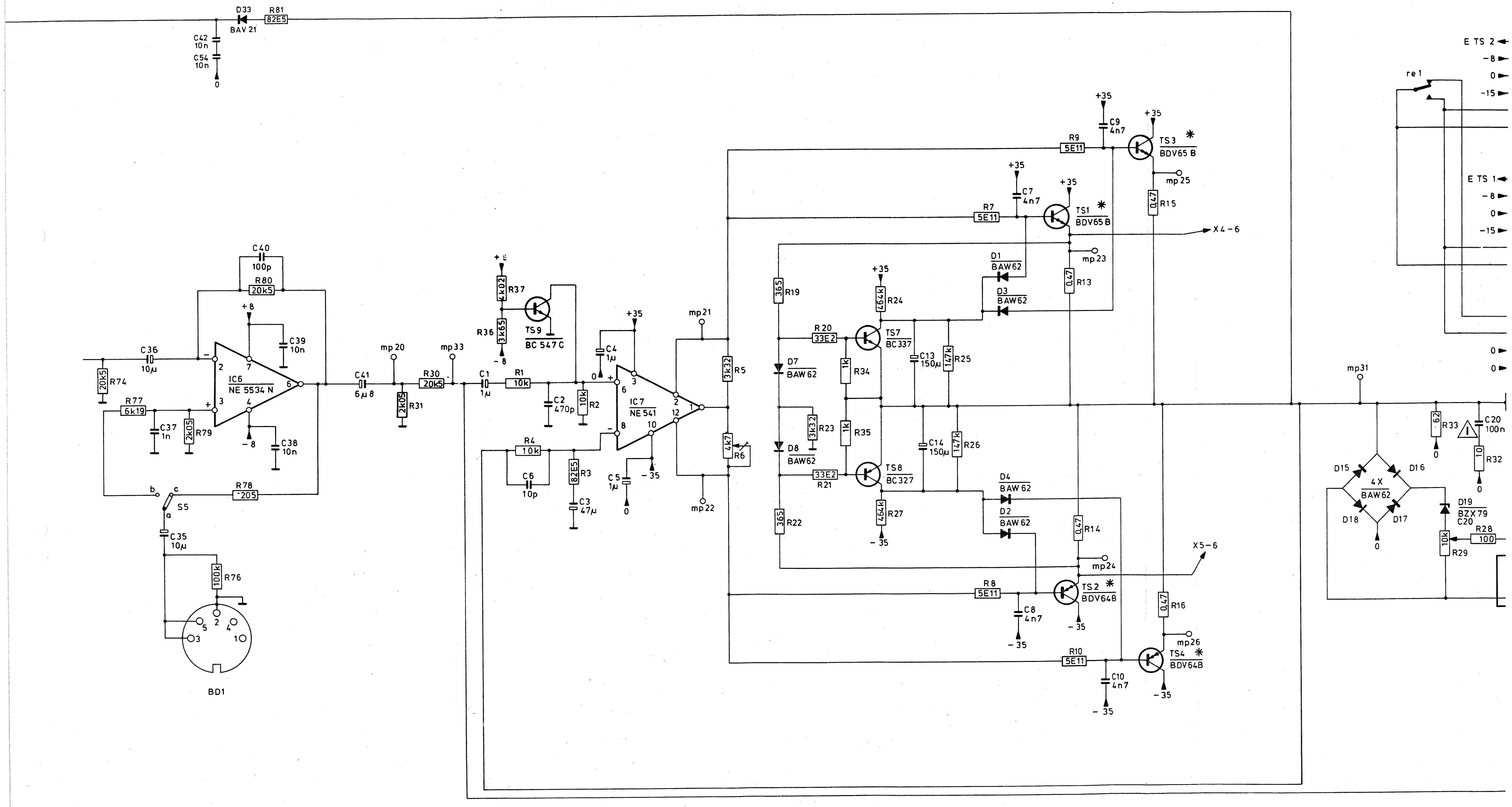
* TS1 / TS2 SELECTED PAIR

2.9.2 SQ6 POWER
AMPLIFIER SECTION LBB 1262/00
(50 W)

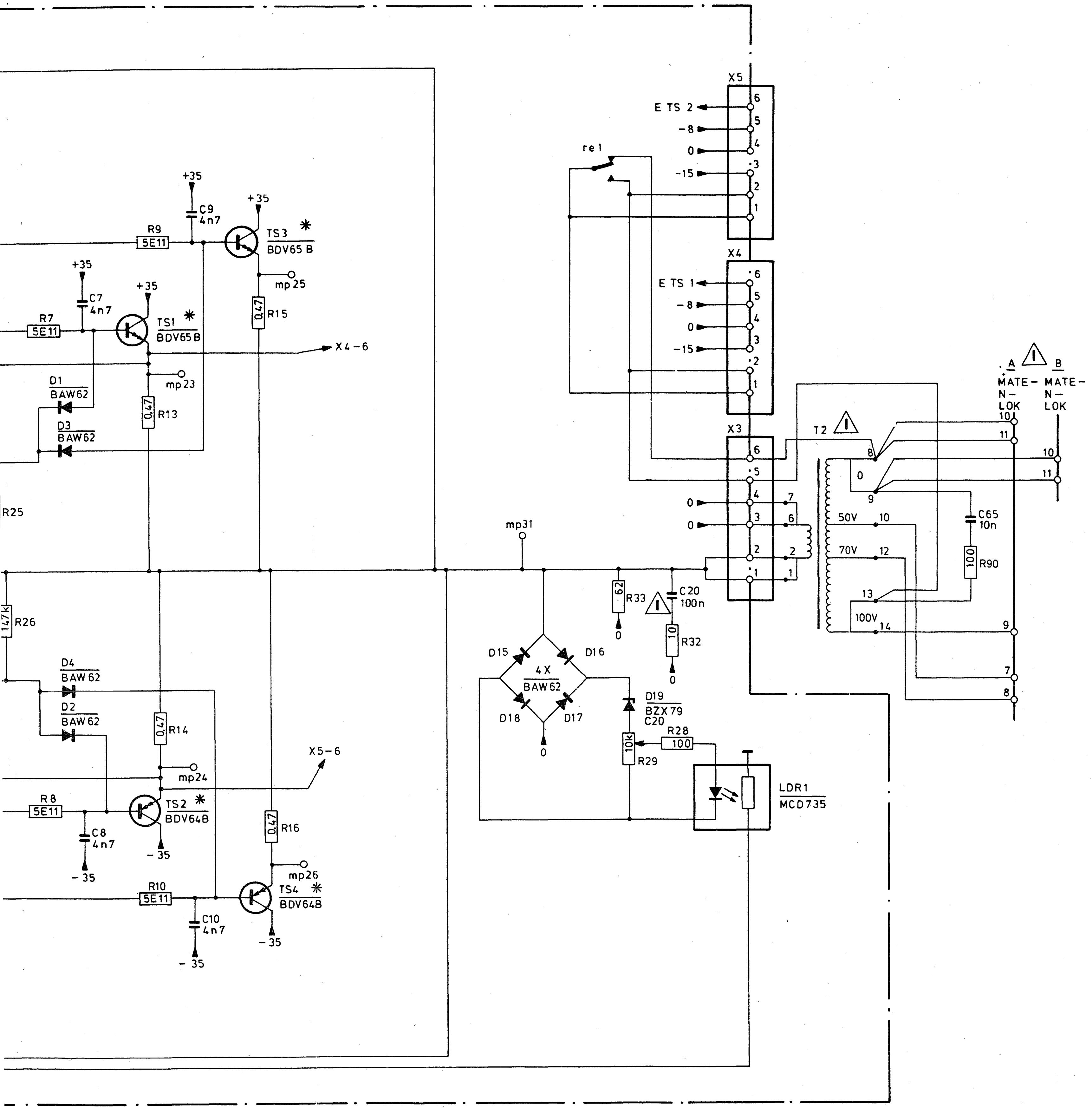

X1
C15
C16
P3
P4
F3
F4
P2
DR1
DR2
D35
38
F2
F1
D11
D10
D9
B
M
S
S2
S3
S4
X11
X12
X13
1
7
16
D21
D24
D27
R41
D22
D25
D28
R42
D23
D26
D29
R43
R44
R45
R47
R46
R49
R48
IC1
R50
R51
IC2
R52
R53
X14
R54
R55
C23
C21
C22
C34
C60+
R68
R89
IC3
C24+
R59
R61
R62
R60
R57
R56
R67
R73
ATTENTION
TS1
TS3
D1
D3
R7
C7
R9
C9
R24
23
29
21
25
27
20
C36+
C38
C39
R28
LDR 1
33
R29
IC6
C40
R80
C41+
R79
C37
R31
R30
D18
D15
D16
D17
D19
C1+
C2
R37
R36
R2
R1
R5
R77
R78
S5
C35+
R76
R23
D7
R19
R20
R21
R22
D8
R35
R34
R25
R26
TS9
TS8
TS7
R15
R13
C13
C14
C4+
C3+
31
BD1
1
2
3
4
5


ATTENTION MOS CIRCUIT
X11
X12
X13
X14
X16
X17
X18
X5
X4
X3
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
TS1
TS2
TS3
TS4
TS7
TS8
TS9
TS11
LDR 1
S5
BD1
RE1
DR1
DR2
C47
C48
C49
C50
C51
C52
C13
C14
C20
R15
R13
R16
R14
R33
R32
R83
R84
D34
D38
D39
EVE 5799

2.10.1 PCB LAYOUT
LBB 1263/00 (100 W)

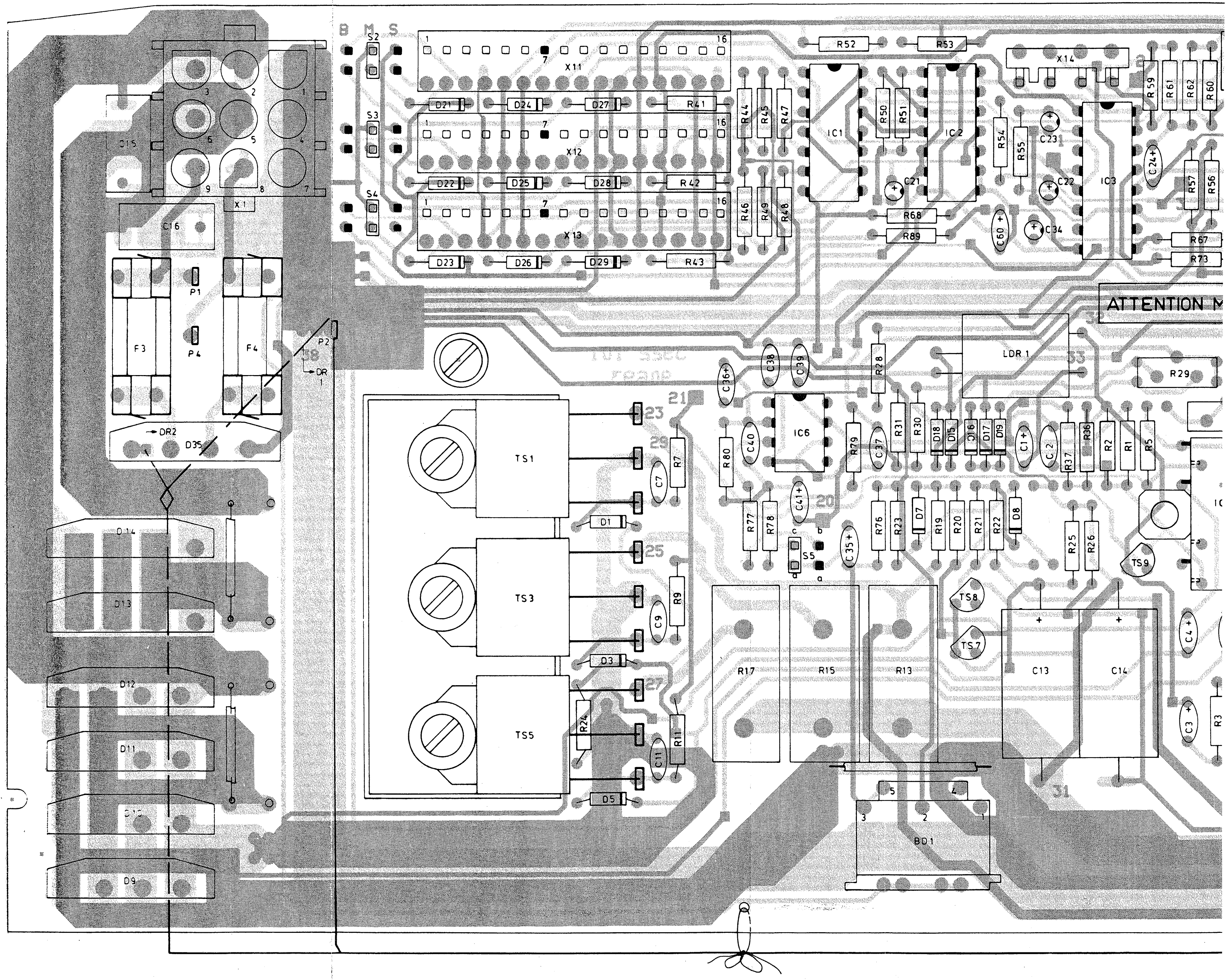

D33
BAV 21
R81
82E5
C42
10n
C54
10n
0
C40
100p
R80
20k5
+8
C39
10n
C36
10µ
IC6
NE 5534 N
R74
20k5
R77
6k19
C37
1n
R79
2k05
-8
C38
10n
b
c
S5
a
R78
205
C35
10µ
R76
100k
BD1
C41
6µ8
mp 20
R31
2k05
R30
20k5
mp 33
C1
1µ
R1
10k
C2
470p
R2
10k
+8
R37
4k02
R36
3k65
-8
TS9
BC 547 C
R4
10k
C6
10p
R3
82E5
C3
47µ
+35
C4
1µ
IC7
NE 541
C5
1µ
-35
mp 21
mp 22
R5
3k32
R6
4k7
R19
365
R22
365
R20
33E2
R21
33E2
D7
BAW 62
D8
BAW62
R23
3k32
+35
R24
464k
TS7
BC 337
TS8
BC 327
R34
1k
R35
1k
R27
464k
-35
C13
150µ
C14
150µ
R25
147k
R26
147k
D1
BAW62
D3
BAW62
D4
BAW 62
D2
BAW 62
R9
5E11
C9
4n7
TS3
BDV65 B
mp 25
R15
0.47
R7
5E11
C7
4n7
TS1
BDV65 B
X4-6
mp 23
R13
0.47
R14
0.47
mp 24
X5-6
R8
5E11
C8
4n7
TS2
BDV64B
R16
0.47
mp 26
R10
5E11
C10
4n7
TS4
BDV64B
mp31
R33
.62
C20
100n
R32
10
D15
D16
4 X
BAW62
D18
D17
D19
BZX 79
C20
R28
100
R29
10k
re 1
E TS 2
-8
0
-15
E TS 1
-8
0
-15
0
0

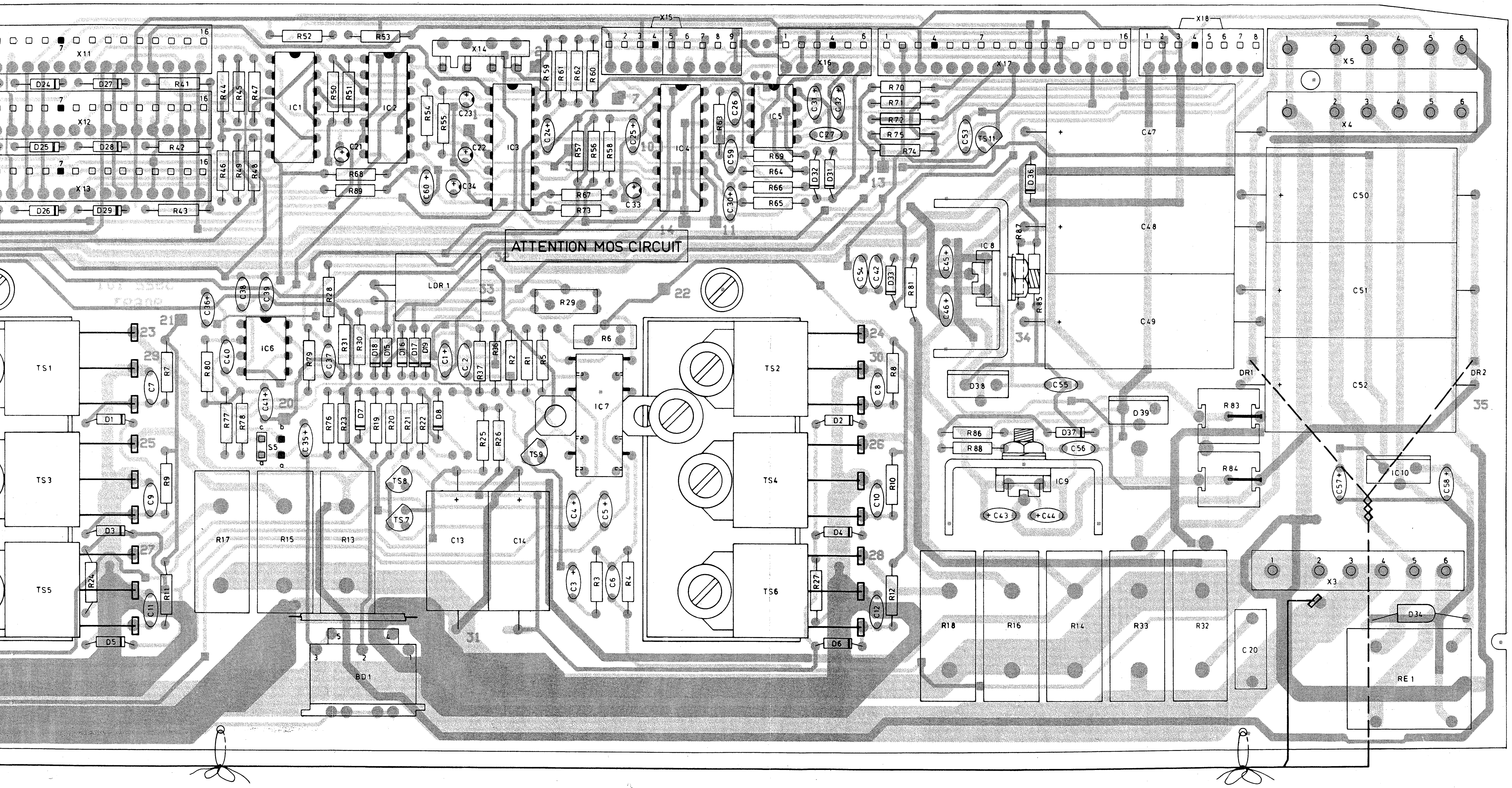
* TS1 / TS2 SELECTED PAIR
TS3 / TS4 SELECTED PAIR


X5
E TS 2
-8
0
-15
re1
X4
E TS 1
-8
0
-15
X3
0
0
+35
C9 4n7
+35
R9 5E11
TS3 * BDV65 B
mp25
0,47 R15
+35
C7 4n7
+35
R7 5E11
TS1 * BDV65B
X4-6
mp23
D1 BAW62
D3 BAW62
0,47 R13
R25
147k R26
D4 BAW 62
D2 BAW 62
0,47 R14
mp24
X5-6
R8 5E11
TS2 * BDV64B
C8 4n7
-35
-35
0,47 R16
mp26
R10 5E11
TS4 * BDV64B
C10 4n7
-35
-35
mp31
62 R33
0
C20 100n
10 R32
0
D15
D16
4X BAW62
D18
D17
0
D19 BZX79 C20
R28 100
10k R29
LDR1 MCD735
T2
0
50V 10
70V 12
13
100V 14
C65 10n
100 R90
A MATE-N-LOK
B MATE-N-LOK
EVE 5805

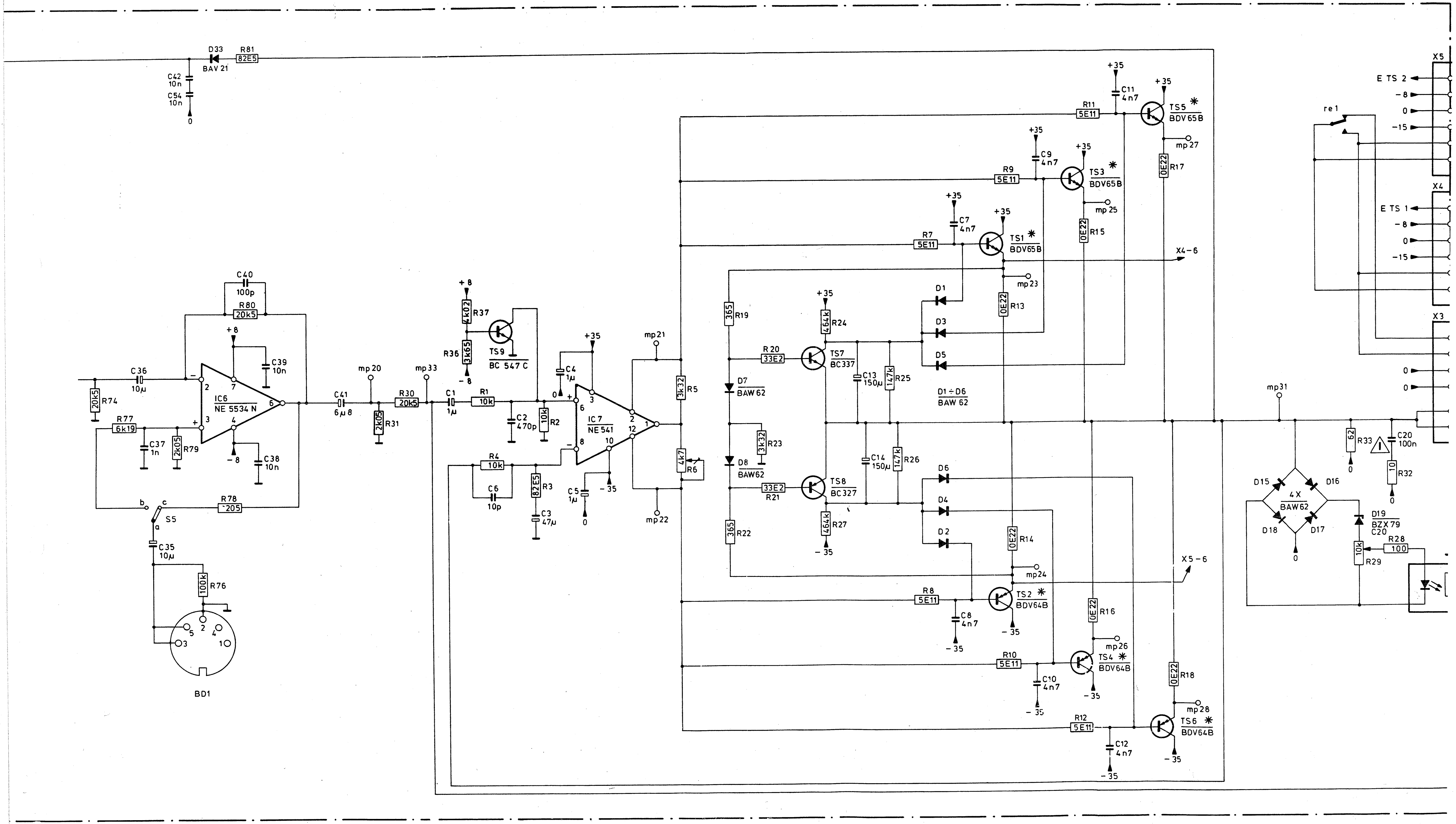
* TS1/TS2 SELECTED PAIR
TS3/TS4 SELECTED PAIR

2.10.2 SQ6 POWER AMPLIFIER
SECTION LBB 1263/00 (100 W)

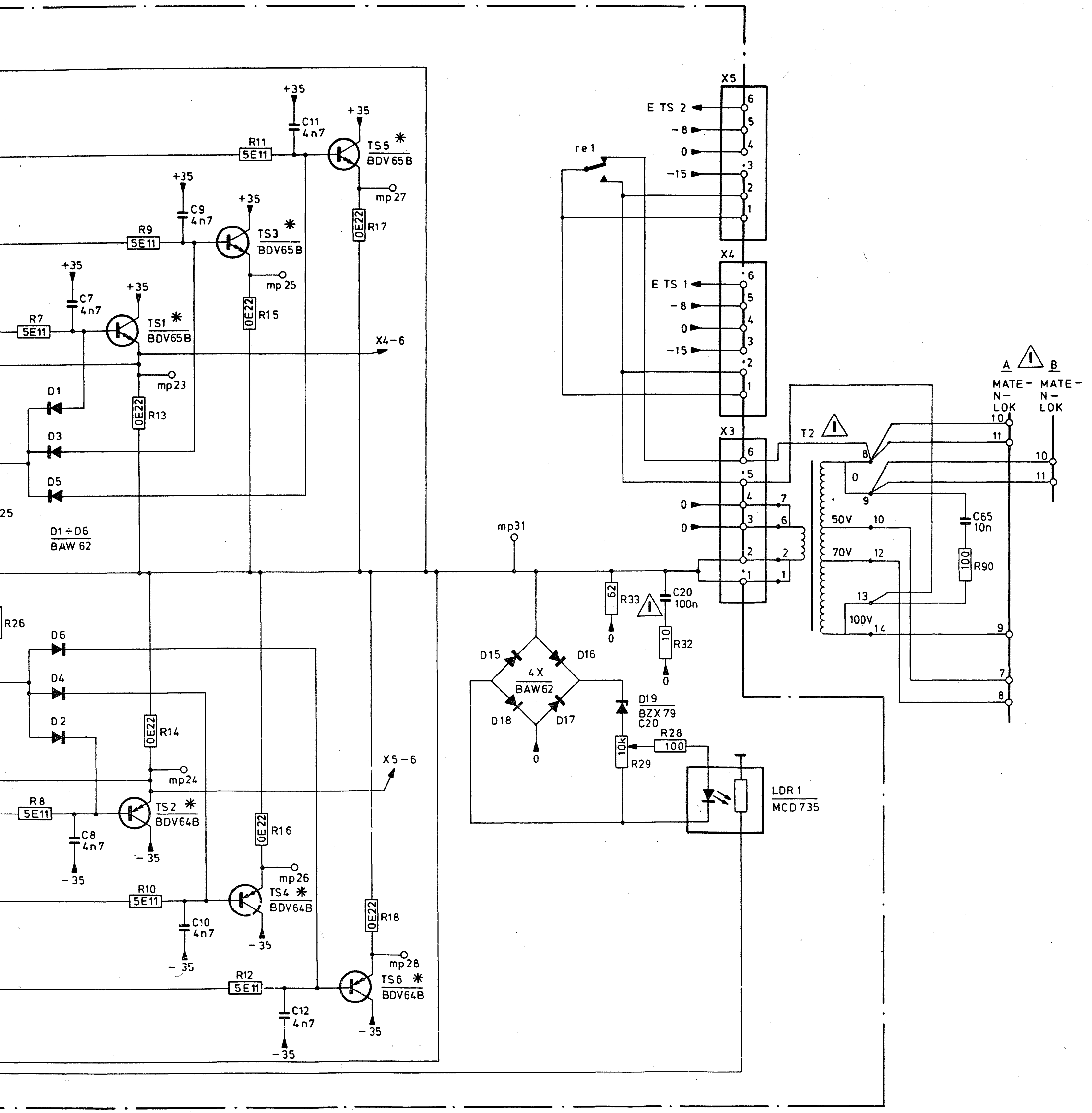

B M S
S2
S3
S4
X11
X12
X13
X14
X1
D21
D22
D23
D24
D25
D26
D27
D28
D29
R41
R42
R43
R44
R45
R46
R47
R48
R49
R50
R51
R52
R53
R54
R55
R56
R57
R59
R60
R61
R62
R67
R68
R73
R89
IC1
IC2
IC3
IC6
C21
C22
C23
C24+
C34
C60+
D15
C16
P1
P2
P4
F3
F4
DR 1
DR2
D35
D14
D13
D12
D11
D10
D9
TS1
TS3
TS5
D1
D3
D5
C7
C9
C11
R7
R9
R11
R24
23
25
27
29
21
20
31
32
33
ATTENTION M
LDR 1
R28
R29
C36+
C38
C39
C40
C41+
R80
R79
C37
R31
R30
D18
D15
D16
D17
D9
C1+
C2
R37
R36
R2
R1
R5
R77
R78
S5
C35+
R76
R23
D7
R19
R20
R21
R22
D8
R25
R26
TS9
TS8
TS7
R17
R15
R13
C13
C14
C4+
C3+
R3
BD1
1 2 3 4 5


ATTENTION MOS CIRCUIT
X11
X12
X13
X14
X15
X16
X17
X18
X5
X4
X3
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
LDR 1
TS1
TS2
TS3
TS4
TS5
TS6
TS7
TS8
TS9
TS11
C47
C48
C49
C50
C51
C52
C13
C14
C20
R17
R15
R13
R18
R16
R14
R33
R32
BD1
RE 1
DR1
DR2
S5

2.11.1 PCB LAYOUT
LBB 1264/00 (200 W)

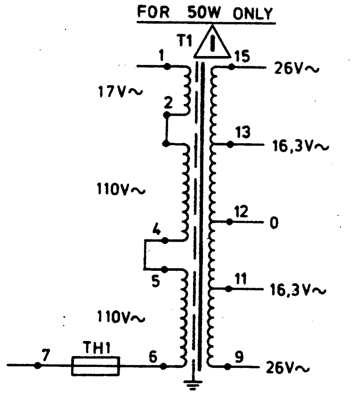

D33
BAV 21
R81
82E5
C42
10n
C54
10n
0
+35
C11
4n7
R11
5E11
+35
TS5 *
BDV65B
mp 27
0E22
R17
+35
C9
4n7
R9
5E11
+35
TS3 *
BDV65B
mp 25
0E22
R15
+35
C7
4n7
R7
5E11
+35
TS1 *
BDV65B
X4-6
mp 23
0E22
R13
D1
D3
D5
D1 ÷ D6
BAW 62
365
R19
+35
464k
R24
R 20
33E2
TS7
BC337
C13
150µ
147k
R25
D7
BAW 62
3k32
R23
D8
BAW62
33E2
R21
TS8
BC327
C14
150µ
147k
R26
365
R22
464k
R27
-35
D6
D4
D2
0E22
R14
mp24
X5-6
R8
5E11
TS2 *
BDV64B
-35
C8
4n7
-35
0E22
R16
mp26
TS4 *
BDV64B
R10
5E11
-35
C10
4n7
-35
0E22
R18
mp28
TS6 *
BDV64B
R12
5E11
-35
C12
4n7
-35
C40
100p
R80
20k5
+8
C39
10n
C36
10µ
20k5
R74
IC6
NE 5534 N
R77
6k19
C37
1n
2k05
R79
-8
C38
10n
b
c
R78
205
S5
a
C35
10µ
100k
R76
5
2
4
3
1
BD1
C41
6µ8
mp 20
2k05
R31
mp 33
R30
20k5
C1
1µ
R1
10k
+8
4k02
R37
TS9
BC 547 C
3k65
R36
-8
C2
470p
10k
R2
+35
C4
1µ
0
IC 7
NE 541
C5
1µ
0
-35
R4
10k
C6
10p
82E5
R3
C3
47µ
mp21
3k32
R5
4k7
R6
mp22
mp31
62
R33
0
C20
100n
10
R32
0
D15
D16
4X
BAW62
D18
D17
0
D19
BZX 79
C20
R28
100
10k
R29
re 1
X5
E TS 2
-8
0
-15
X4
E TS 1
-8
0
-15
X3
0
0

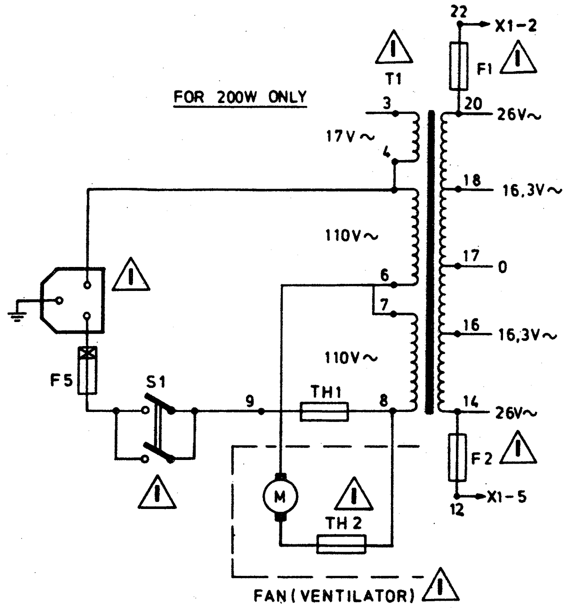
* TS1 / TS2 ON 792
TS3 / TS4 ON 792
TS5 / TS6 ON 792

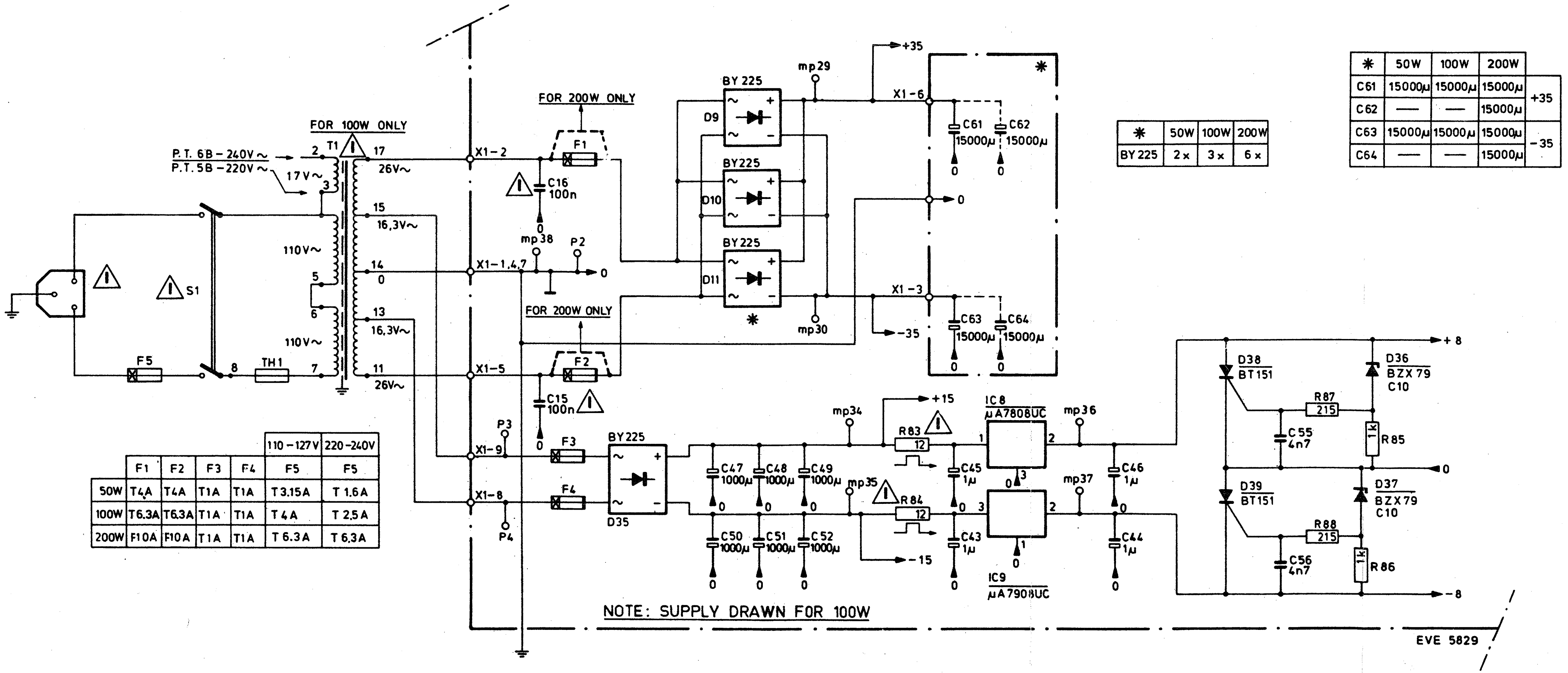

X5
E TS 2
-8
0
-15
re 1
X4
E TS 1
X3
T2
A
B
MATE-N-LOK
MATE-N-LOK
50V
70V
100V
C65 10n
R90 100
+35
C11 4n7
R11 5E11
TS5 * BDV65B
mp 27
R17 0E22
C9 4n7
R9 5E11
TS3 * BDV65B
mp 25
R15 0E22
C7 4n7
R7 5E11
TS1 * BDV65B
X4-6
mp 23
R13 0E22
D1
D3
D5
D1 ÷ D6 BAW 62
mp31
R33 62
C20 100n
R32 10
D15
D16
4X BAW62
D18
D17
D19 BZX79 C20
R28 100
R29 10k
LDR 1 MCD735
R26
D6
D4
D2
R14 0E22
mp 24
X5-6
R8 5E11
TS2 * BDV64B
C8 4n7
-35
R16 0E22
mp 26
TS4 * BDV64B
R10 5E11
C10 4n7
R18 0E22
mp 28
TS6 * BDV64B
R12 5E11
C12 4n7
EVE 5807

*
TS1 / TS2 ON 792
TS3 / TS4 ON 792
TS5 / TS6 ON 792

2.11.2 SQ6 POWER AMPLIFIER
SECTION LBB 1264/00 (200 W)


FOR 50W ONLY
T1
17V~
110V~
110V~
TH1
26V~
16,3V~
0
16,3V~
26V~
1
2
4
5
6
7
15
13
12
11
9


FOR 200W ONLY
T1
17V ~
110V~
110V~
F5
S1
TH1
M
TH 2
FAN (VENTILATOR)
22
X1-2
F1
20
26V~
18
16,3V~
17
0
16
16,3V~
14
26V~
F2
X1-5
12
3
4
6
7
8
9


FOR 100W ONLY
P.T. 6B - 240V ~
P.T. 5B - 220V ~
T1
17V~
110V~
110V~
S1
F5
TH1
17
26V~
15
16,3V~
14
0
13
16,3V~
11
26V~
X1-2
X1-1,4,7
X1-5
X1-9
X1-8
FOR 200W ONLY
F1
C16
100n
mp38
P2
0
FOR 200W ONLY
F2
C15
100n
P3
P4
F3
F4
BY 225
D35
BY 225
D9
BY225
D10
BY225
D11
mp29
mp30
+35
X1-6
C61
15000µ
C62
15000µ
0
X1-3
-35
C63
15000µ
C64
15000µ
C47
1000µ
C48
1000µ
C49
1000µ
C50
1000µ
C51
1000µ
C52
1000µ
mp34
mp35
+15
-15
R83
12
R84
12
C45
1µ
C43
1µ
IC8
µA7808UC
IC9
µA7908UC
mp36
mp37
C46
1µ
C44
1µ
D38
BT151
D39
BT151
R87
215
R88
215
C55
4n7
C56
4n7
D36
BZX79
C10
D37
BZX79
C10
R85
R86
1k
+8
0
-8
NOTE: SUPPLY DRAWN FOR 100W
EVE 5829

					110 - 127 V	220 - 240 V
	F1	F2	F3	F4	F5	F5
50W	T4A	T4A	T1A	T1A	T 3.15A	T 1.6A
100W	T6.3A	T6.3A	T1A	T1A	T 4 A	T 2,5 A
200W	F10A	F10A	T1A	T1A	T 6.3A	T 6,3A

✳	50W	100W	200W
BY 225	2 x	3 x	6 x

✳	50W	100W	200W	
C61	15000µ	15000µ	15000µ	+35
C62	—	—	15000µ	
C63	15000µ	15000µ	15000µ	−35
C64	—	—	15000µ	

2.12 SQ6
POWER SUPPLY SECTION

2.13 SQ6 SERVICE PARTS LIST

Parts common for all three versions

Code number	Item	Description
5322 462 44439	2	Footbar
5322 462 44431	3	Feet
5322 466 94613	6	Clamping block
5322 462 34186	13	Print guide
5322 256 94165	16	Holder
5322 447 54011	23	Front assy
5322 454 44023	29	Module locking bar
5322 535 94955	30	Extension piece SK1
5322 414 26397	31	Button
5322 447 54013	32	Cover
5322 265 24043	49	⚠ Mains connector + fuse
5322 265 44112	50	⚠ AMP connector 12 pole
5322 290 44042	52	⚠ AMP contact (male)
5322 265 44111	53	⚠ AMP plug 12 pole
5322 268 40105	67	⚠ AMP plug 15 pole
5322 395 94064	57	Ejector tool
5322 268 14154	61	⚠ AMP contact (female)
5322 290 44043	58	⚠ Cable clamp assembly for AMP plug
5322 268 40106	68	⚠ AMP connector 15 pole
4822 112 21081	R90	Resistor 4 W 100 E
5322 276 14398	SK1	⚠ Push button switch

P.C. Board assy

5322 124 14075	C1-4-5	1 µF	40 V
4822 124 10197	C3	47 µF	6,3 V
4822 124 20703	C13-14	150 µF	25 V
5322 121 44259	C15-16	⚠ 100 kpF	250 V
5322 121 40323	C20	⚠ 100 kpF	100 V

Code number	Item	Description
5322 124 14075	C21-22-23	1 µF 35 V
5322 124 14066	C24-25-32	10 µF 10 V
4822 124 20943	C30	22 µF 10 V
4822 124 20945	C31	33 µF 10 V
5322 124 14075	C33-34	1 µF 35 V
5322 124 14066	C35-36	10 µF 10 V
5322 124 14081	C41	6,8 µF 25 V
5322 124 14075	C43-44-45-46	1 µF 40 V
4822 124 20786	C47-48-49	1000 µF 25 V
4822 124 20786	C50-51-52	1000 µF 25 V
5322 124 14075	C57-58	1 µF 40 V
5322 124 14074	C60	220 kpF 40 V
5322 101 14067	R6	Potmeter 4K7
5322 101 14066	R29	Potmeter 10 k
5322 113 44252	R32	10 E 3 W
5322 113 44254	R33	62 E 3 W
4822 115 90091	R83-84	⚠ 12 E 3 W
4822 130 40855	TS7	BC337
4822 130 40854	TS8	BC327
4822 130 44503	TS9	BC547C
5322 130 44854	TS11	BSR61
4822 130 30613	D7-8	BAW62
4822 130 30613	D15-16-17-18	BAW62
4822 130 34499	D19	BZX79-C20
4822 130 30613	D21-22...32	BAW62
4822 130 30842	D33	BAV21
4822 130 30839	D34	BY206
4822 130 50312	D35	BY225-200
4822 130 34297	D36-37	BZX79-C10
5322 130 24081	D38-39	BT151-650R
5322 209 14054	IC1	HEF4081BP
5322 209 14186	IC2	HEF4093BP

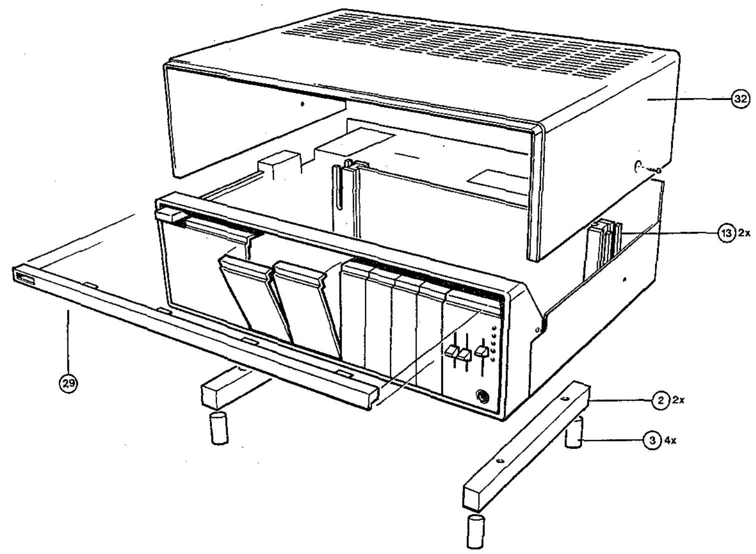
Code number	Item	Description
5322 209 14443	IC3	HEF4104BP
5322 209 85748	IC4	SD5000N
5322 209 86285	IC5-6	NE5534N
5322 209 86283	IC8	µA7808UC
5322 209 86144	IC9	µA7908UC
5322 209 86227	IC10	µA7812UC
5322 130 34912	LDR1	MCD735
4822 253 30021	F3-4	⚠ Fuse T 1A 250 V
5322 280 74124	RE1	⚠ Relay
5322 265 34108	12	Connector 6 pole
5322 267 54199	14	Connector 16 pole
4822 267 40258	16,	C7X socket
4822 267 40266	22	Audio socket 5 pole
5322 267 34069	30	Mini connector
5322 290 64226	31	⚠ AMP connector 9 pole
5322 264 40176		Audio plug 3 p for ㉒

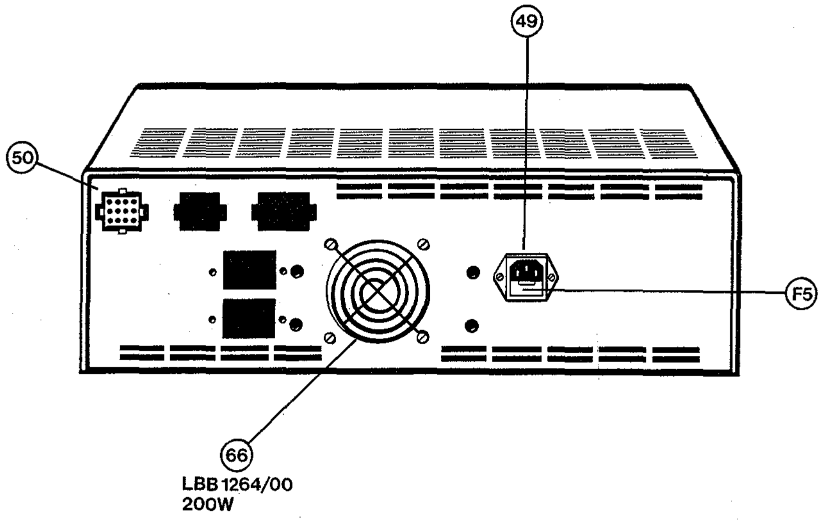
IC7 (NE541) has no service code number and is not available from Concern Service. It may be supplied upon special request from CED - ELA.

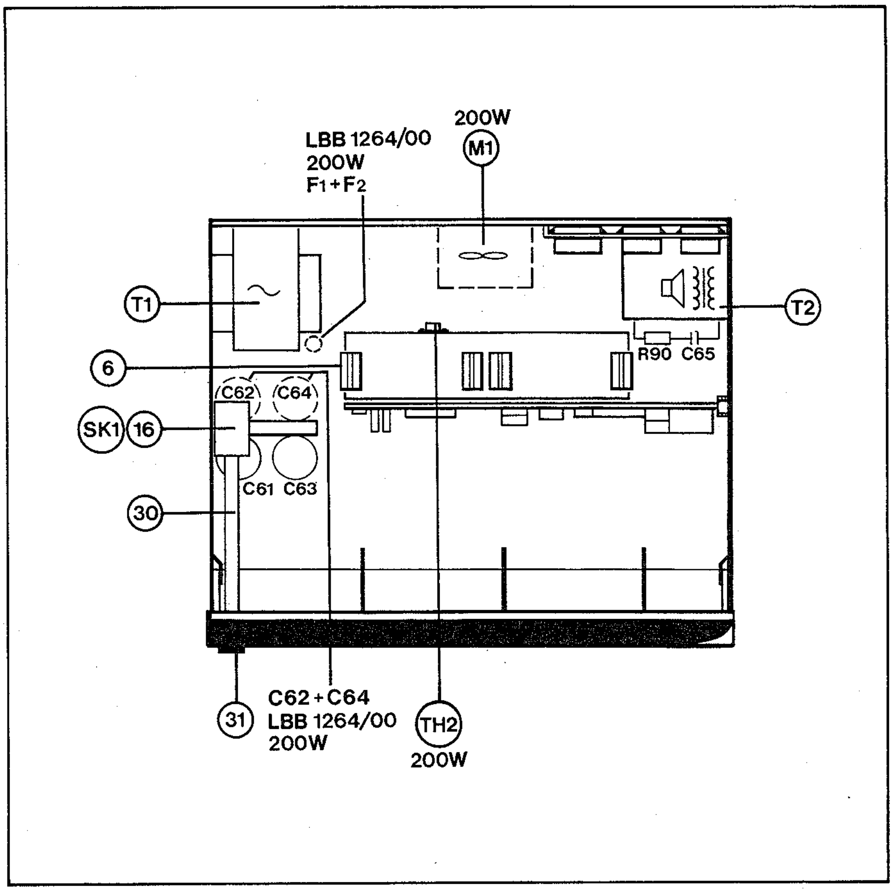
Parts only for 50 W amplifier LBB 1262/00

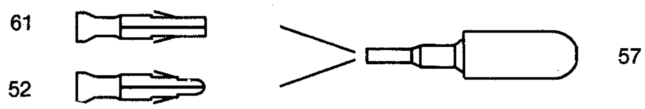
Code number	Item	Description
4822 253 30038	F1-2	⚠ Fuse T 4A 250 V
4822 253 30024	F5	⚠ Fuse T 1,6A 250 V
5322 146 24468	T1	⚠ Mains transformer
5322 140 64051	T2	⚠ Output transformer
5322 124 74156	C61-63	Capacitor 15.000 µF 40 V
5322 214 14025	18	P.C. board assy
5322 113 44253	R13-14	E47 3 W
4822 130 44891	TS1/TS2	BDV64B/65B
4822 130 30613	D1-2	BAW62
4822 130 50312	D9-10	BY225-200

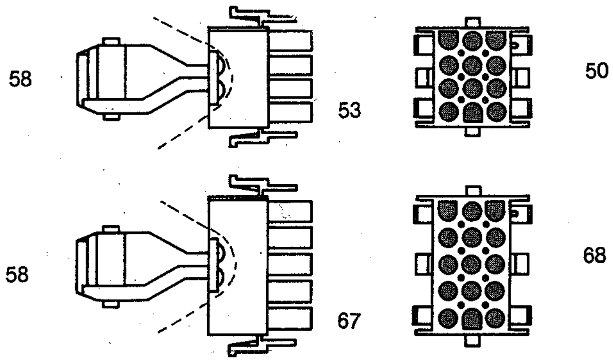
Code number	Item	Description
Parts only for 100 W amplifier LBB 1263/00		
4822 253 30031	F1-2	⚠ Fuse T 6,3A 250 V
4822 253 30026	F5	⚠ Fuse T 2,5A 250 V
5322 146 14194	T1	⚠ Mains transformer
5322 140 64051	T2	⚠ Output transformer
5322 124 74156	C61-63	Capacitor 15.000 µF 40 V
5322 214 14022	18	P.C. board assy
5322 113 44253	R13-14-15-16	E47 3 W
5322 130 44891	TS1/TS2	BDV64B/65B
5322 130 44891	TS3/TS4	BDV64B/65B
4822 130 30613	D1-2-3-4	BAW62
4822 130 50312	D9-10-11	BY225-200
Parts only for 200 W amplifier LBB 1264/00		
5322 252 54004	F1-2	⚠ Fuse F 10A 50 V (6,5x25 mm)
4822 253 30031	F5	⚠ Fuse T 6,3A 250 V
5322 146 14195	T1	⚠ Mains transformer
5322 140 64052	T2	⚠ Output transformer
5322 124 74156	C61-62-63-64	Capacitor 15.000 µF 40 V
5322 458 34021	66	Protection cover
5322 361 14155	M1	Cooling fan
5322 282 54067	TH2	Thermostat
5322 214 14024	18	P.C. board assy
5322 113 44268	R13-14...18	E22 3 W
5322 130 44877	TS1/TS2	ON792 (Sel. Pair BDV64B/65B)
5322 130 44877	TS3/TS4	ON792 (Sel. Pair BDV64B/65B)
5322 130 44877	TS5/TS6	ON792 (Sel. Pair BDV64B/65B)
4822 130 30613	D1-2...6	BAW62
4822 130 50312	D9-10...14	BY225-200

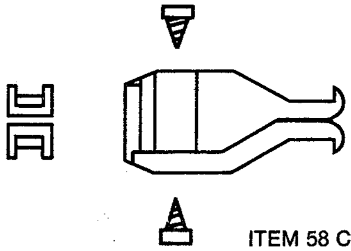

32
13 2x
29
2 2x
3 4x


49
50
F5
66
LBB 1264/00
200W


200W
M1
LBB 1264/00
200W
F1+F2
T1
T2
R90
C65
6
C62
C64
SK1
16
C61
C63
30
31
C62+C64
LBB 1264/00
200W
TH2
200W




58
53
50
58
67
68



ITEM 58 CABLE CLAMP ASSEMBLY

Master module

3

3.1 DESCRIPTION
3.2 INSTALLATION
3.3 TECHNICAL DATA
3.4 BLOCK DIAGRAM
3.5 PARTS LIST
3.6 CIRCUIT DESCRIPTION
3.7 CHECKLIST FOR FAULT LOCATION
3.8 P.C.B. LAY-OUT
3.9 CIRCUIT DIAGRAM

3 Master module

3.1 DESCRIPTION

This master volume control module is delivered as a standard item with each SQ6 power amplifier and allows any necessary adjustments to the output signal to be made. Three slide potentiometers respectively ①, ②, and ③ in Fig. 4 control volume, treble tone and bass tone. The LED indicators have three functions:

- on/off indicator
  when the amplifier is on, the green LED ④ is always on.
- Vu-meter
  the three yellow LED's ⑤ and the red LED ⑥ have the function of a Vu-meter. The output signal level is indicated by the number of orange LED's that are on.
- limiter indicator
  when the red LED is on, the limiter circuit is operative. When the amplifier is being continuously overdriven, the red LED will flash rapidly.

The headphone socket ⑦ allows the input signals to be monitored so that they can be adjusted, if necessary, before being relayed by the loudspeaker system. The level of the audio signal on the headphone socket is completely independent of the setting of the master volume control.

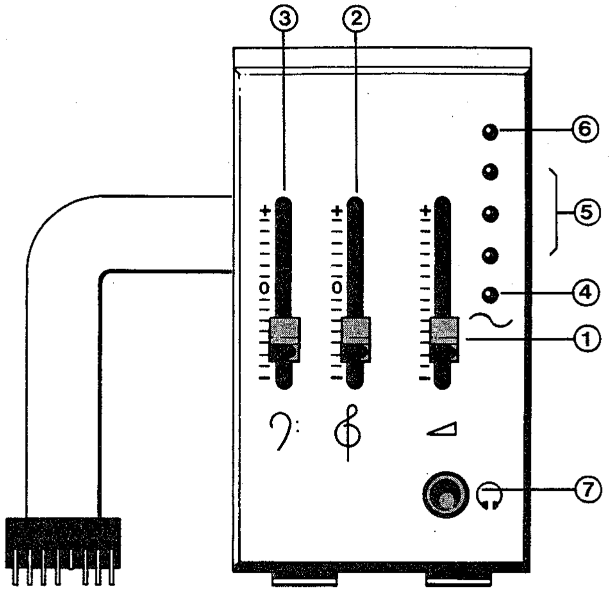


Fig.4 **LBB 1272/01**

Adjustments

Volume:
For a maximum output level, set sliding volume control ① in Fig. 4 so that the red LED on the Vu-indicator does just not illuminate.

Treble/bass:
Adjust ② and ③ tone controls for desired effect and readjust volume control if necessary.

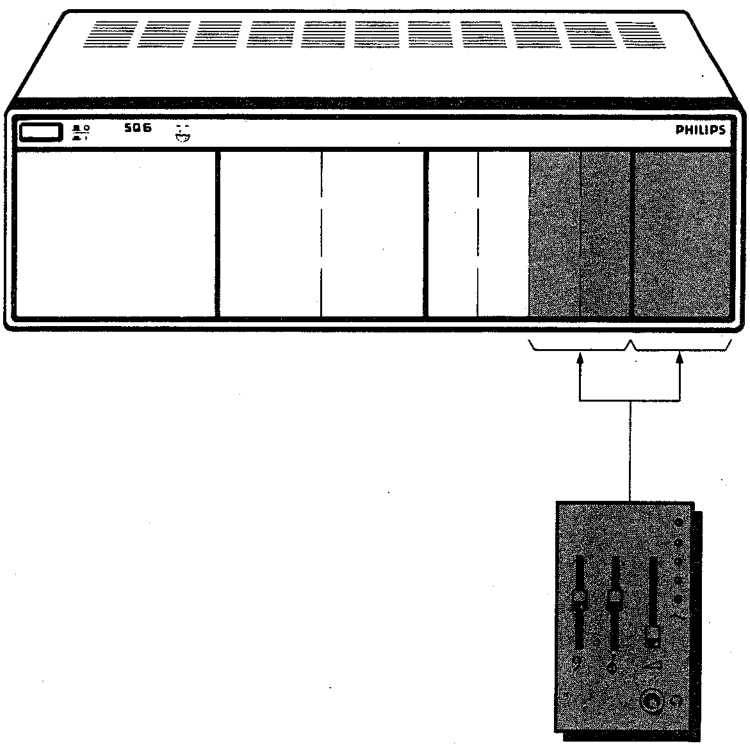


Fig.5

3.2 INSTALLATION

The master module is supplied with each SQ6 amplifier and as a standard fitting is mounted on the right-handside of the amplifier's front panel.
If desired, and provided there is sufficient space after other modules have been fitted, this master module may also be mounted in the adjacent position to the left. See Fig. 5. Its 8 pin connector, on the ribbon cable, must be always inserted into the polarized 8-pole socket X18 on the main p.c. board See Fig. 6.

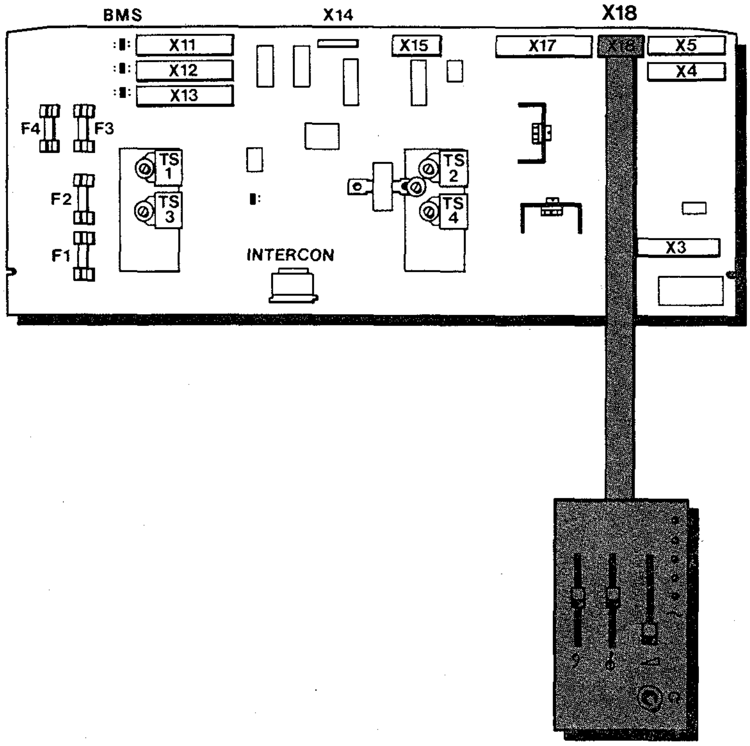
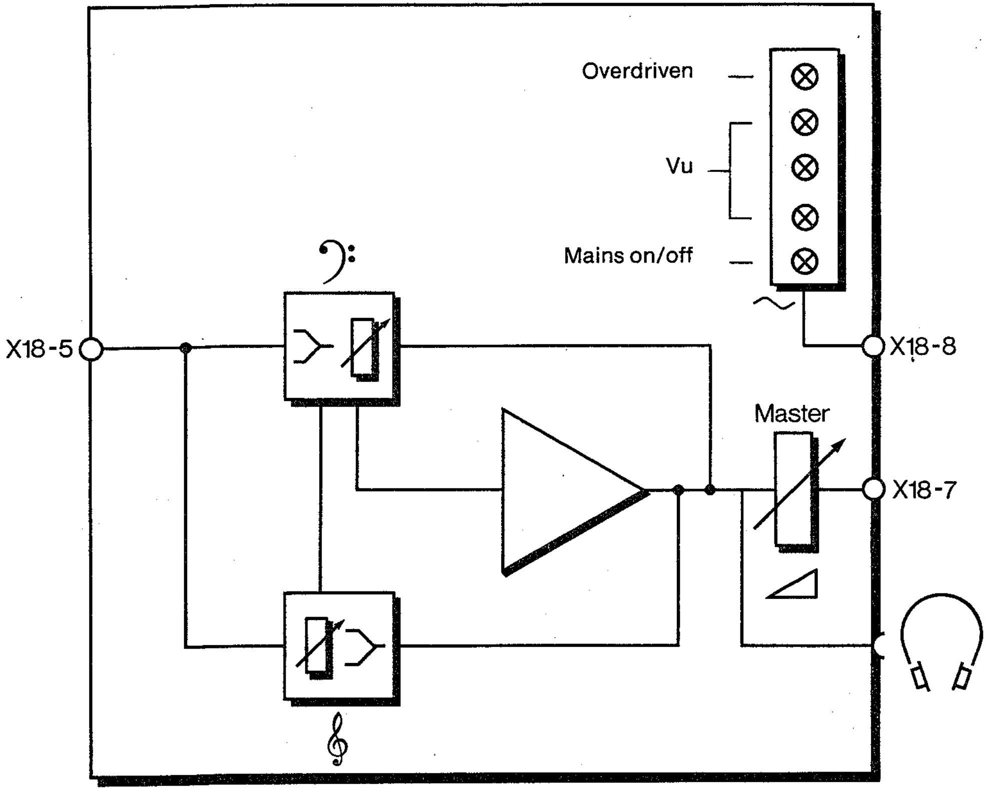


Fig.6

3.3 TECHNICAL DATA

500 mV	***Input sensitivity***
20-20000 Hz (−3 dB)	**Frequency response** (Tone controls mid-way)
0.05%	**Distortion** at nominal output
≥ 90 dB	***Signal-to-noise ratio*** related to nominal output
	Tone control
+14 dB ± 2 dB → −14 dB ± 2 dB	treble (at 10 kHz)
+14 dB ± 2 dB → −14 dB ± 2 dB	bass (at 100 Hz)
	Vu-meter (levels ± 2 dB relative to 0 dB = 0.775V)
+ 42 dB*	Red *LED 6 output level*
+ 36 dB	Yellow LED 5 output level
+ 29 dB	Yellow LED 5 output level1
+ 21,5 dB	Yellow LED 5 output level
	Green LED 4 on when amplifier is on
	* (amplifier overdriven)
500 mV - 4,5V max. / 600 Ω	**Headphone ouput**
112 x 60 x 47 mm	***Dimensions*** (H x W x D)
≈ 100 g	**Weight**

3.4 BLOCK DIAGRAM LBB 1272/01 MASTER MODULE


Overdriven
Vu
Mains on/off
X18-5
X18-8
Master
X18-7

3.5 PARTS LIST LBB 1272/01 MASTER MODULE

Code number	Description
5322 447 54012	Front plate
4822 267 30111	Headphone socket
5322 105 14041	Potentiometer 5 k (volume)
5322 105 14042	Potentiometer 10 k (treble)
5322 105 14043	Potentiometer 50 k (bass)
5322 414 26396	Knob
5322 130 34959	LED TLG 123A (green)
5322 130 34958	LED TLY 123 (yellow)
5322 130 34957	LED TLR 123 (red)

3.6 CIRCUIT DESCRIPTION

Master module LBB 1271/01

The master module consists basically of two functional parts:

1. Volume and tone control

   L.F. signals from the input module enter the master module at pole 5 of connector X22. IC1 is the active element of the tone control circuit, in which R22 is the bass control potentiometer and R29 the treble control potentiometer.

   The output signal from IC1 is directly fed to the headphone socket for monitoring purposes (pre-fader signal) and via the volume potentiometer R31 to the output power stage of the amplifier.

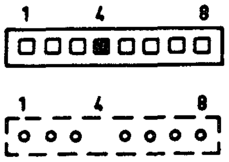
2. LED Indicator

   The green LED is an on/off indicator and is always on when the d.c. supply voltages are present. The three yellow LED's and the red LED function as a VU meter.

   At increasing L.F. output signals, the transistors IC2 (A, B and C) will start conducting one after the other and turn the yellow LED's on, in correspondance with the peaks in the audio signal. Very high level L.F. signals can lead to a status where the three yellow LED's are continuously on. This means that the amplifier is overdriven and that a limiter circuit is operative.

   This is indicated by the red LED which starts flashing rapidly as a result of the oscillator, formed by IC2 (D and E), which is triggered by the L.F. signal.

3.7 CHECKLIST FOR FAULT LOCATION



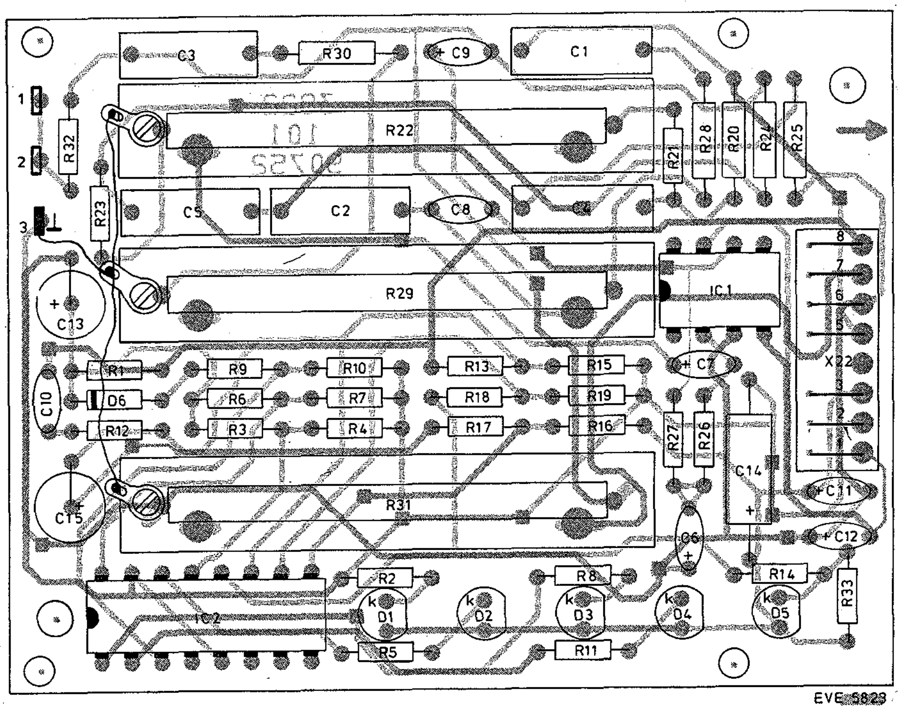
Master module

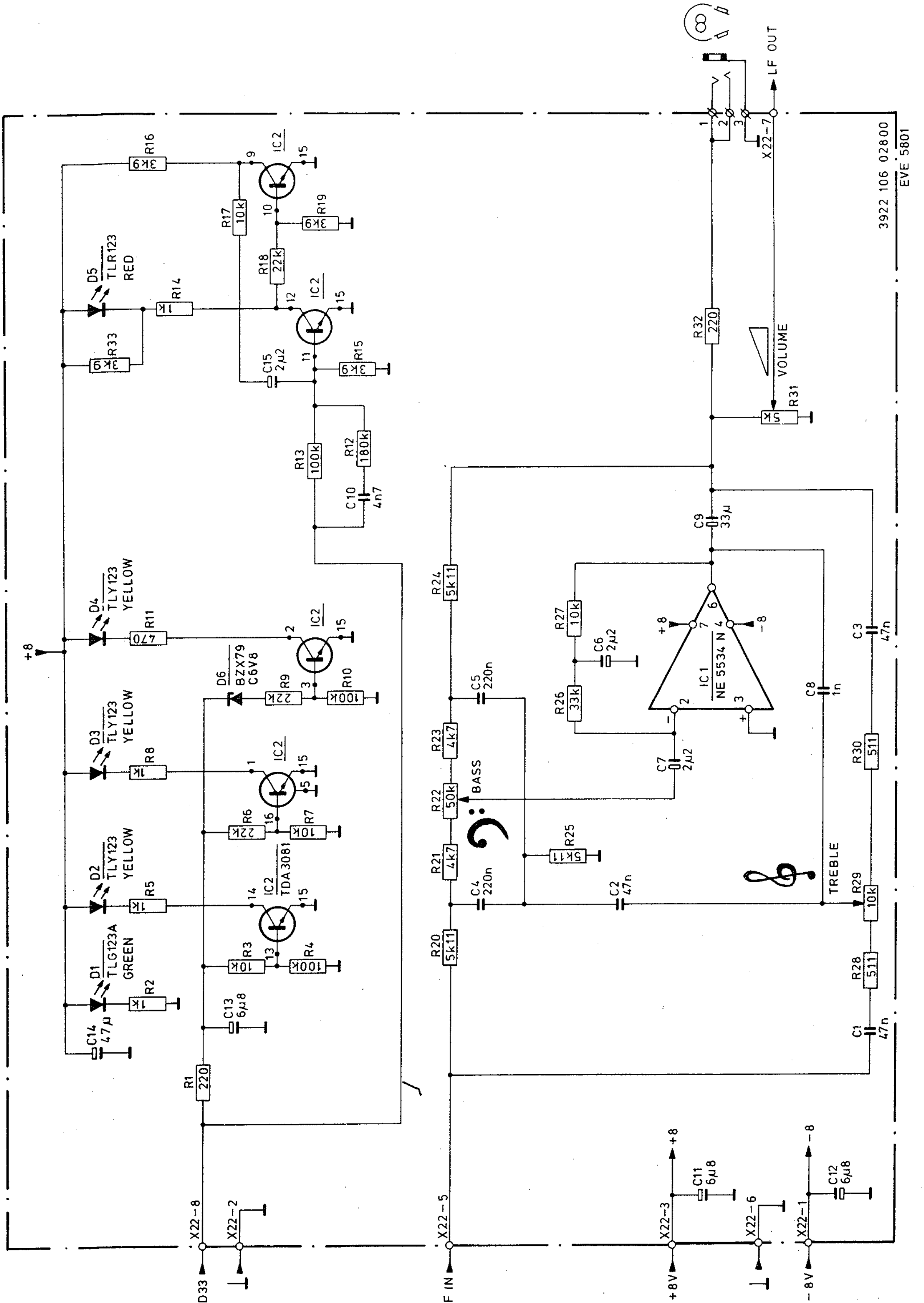
Connector X18 on main p.c.b.

X22 on module p.c.b.

1. -8 V
2. 0
3. +8 V
4. Polarizing key
5. LF in 500 mV nominal (microphones, tuner, cassette etc.)
6. 0
7. LF out 500 mV nominal
8. VU meter drive from output stage (rectified LF)

3.8 P.C.B. LAY-OUT MASTER MODULE


C3
R30
C9
C1
1
2
3
R32
R23
R22
R21
R28
R20
R24
R25
C5
C2
C8
C4
8
7
6
5
R29
IC1
X22
C13
R1
R9
R10
R13
R15
C7
C10
D6
R6
R7
R18
R19
R12
R3
R4
R17
R16
R27
R26
C14
C11
C15
R31
C6
C12
R2
R8
R14
R33
IC2
k
D1
D2
D3
D4
D5
R5
R11
EVE 5823


R16 3k9
IC2
R17 10k
R19 3k9
R18 22k
D5 TLR123 RED
R14 1k
R33 3k9
C15 2µ2
R15 3k9
R13 100k
R12 180k
C10 4n7
D4 TLY123 YELLOW
R11 470
+8
D6 BZX79 C6V8
R9 22k
R10 100k
D3 TLY123 YELLOW
R8 1k
R6 22k
R7 10k
D2 TLY123 YELLOW
R5 1k
IC2 TDA3081
R3 10k
R4 100k
D1 TLG123A GREEN
R2 1k
C13 6µ8
C14 47µ
R1 220
LF OUT
X22-7
3922 106 02800
EVE 5801
R32 220
VOLUME
R31 5k
C9 33µ
R27 10k
C6 2µ2
R26 33k
IC1 NE 5534 N
+8
-8
C7 2µ2
R24 5k11
C5 220n
R23 4k7
R22 50k
BASS
R25 5k11
R21 4k7
C4 220n
C2 47n
R20 5k11
C3 47n
C8 1n
R30 511
TREBLE
R29 10k
R28 511
C1 47n
C11 6µ8
C12 6µ8
X22-8
X22-2
X22-5
X22-3
X22-6
X22-1
D33
LF IN
+8V
-8V

3.9 MASTER MODULE
LBB 1272/01

Chime/alarm/input

4.1 DESCRIPTION

4.2 INSTALLATION

4.3 TECHNICAL DATA

4.4 BLOCK DIAGRAM

4.5 PARTS LIST

4.6 CHECKLIST FOR FAULT LOCATION

4.7 P.C.B. LAY-OUT
  4.7.1 4-tone version
  4.7.2 2-tone version

4.8 CIRCUIT DIAGRAM

4.1 DESCRIPTION

(a) 2 tone Chime/alarm input module LBB 1271/02. See Fig. 7.

This module contains a number of functions which can be combined with the functions of other input modules according to the nature of the application.

These function are as follows:
- 2 tone chime (attention signal) consisting of a 554 Hz tone followed by a 440 Hz tone.
- alarm signal — continuous repetition of the 2 tone chime signal.
- time signal — continuous 554 Hz tone.
- start/stop function for the modular cassette player LBB 1274/02 (see chapter 7).
- line level microphone input channel.
- volume control for microphone — independent of master volume control.

Attention signal

The various methods of initiating the attention signal are as follows:
- by pressing a knob ① on the modules front panel.
- remotely by the microphone 'on' switch on the microphone connected to the module's input channel.
- remotely by the microphone 'on' switch on any input of the 4 channel universal input module LBB 1274/01.

Note:
If no microphone is connected to the module's input and the attention signal is initiated by pressing button ① on the front panel, all other inputs will be blocked until this button is pressed again. This is indicated by the green LED ④ on the module's front panel.
On the LBB 1274/01 input module it is possible to select (by means of a wire link) whether or not the chime signal is initiated before a microphone connected to that module is activated. During the period of the chime signal and its fade out, the green LED indicator ④ on the module's front panel (and on the then non-active microphone) flashes rapidly. When these indicators stop flashing and are on continuously, the microphone input channel, via which the chime was initiated, becomes free for use.

Alarm

The alarm signal can be initiated in two ways:
- either by pressing the alarm button ② on the module's front panel,
- or by a remotely located switch which may be the alarm contacts of, for example, a fire detector system.

During the period of the alarm signal, a red LED ⑤ located on the module's front panel is on and indicates that loudspeakers in all zones are relaying the alarm signal, even those zones that were not originally pre-selected. An important feature of the alarm signal circuitry is that if the mains supply is disconnected, the alarm signal will recommence upon the reconnection of the mains supply and that it can only be switched off by manually resetting the alarm switch on the module or the remotely located hazard detector.

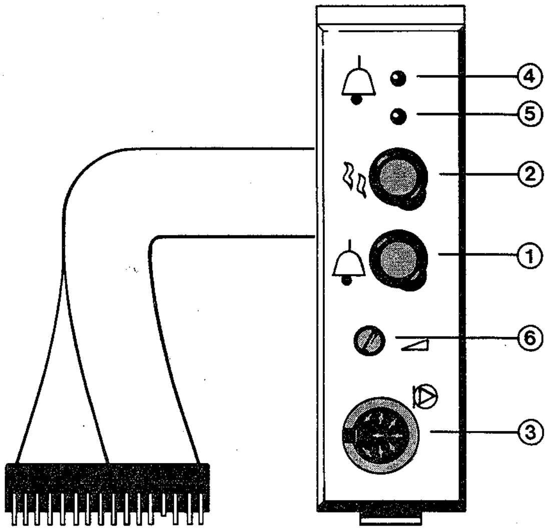


Fig.7 **LBB 1271/01-LBB 1271/03**

Chime/alarm/input

An output is provided on this module for other alarm indicators. The alarm signal channel has priority over all other inputs.

Time signal

The continuous time signal can be initiated by means of remotely located switch mechanism on, for example, a master time clock. The time signal has no priority over any other signal and when generated is mixed with the signal of any other operative input channel.

Start/Stop of Autoreversible Cassette Player

An output is provided on the chime/alarm input module for starting and stopping the cassette player module LBB 1274/02. For this output to be effective, an interconnection block on the cassette player must be in the **ON** position as shown in Fig. 22.

The cassette player will not start instantaneously when the attention signal button is pressed but will start immediately after the attention signal has finished. When the attention signal button is pressed for a second time the cassette player will stop. In this way pre-recorded messages for advertising or alarm purposes can be relayed by the loudspeaker system. This input channel is a top priority channel and overrules all inputs except the microphone input on the chime module itself.

Microphone input

A universal microphone input ③ in Fig. 7 is provided for use with any of the SQ6 electret condenser microphones. This input channel is primarly intended for use when making important announcements and has a separate volume control which operates independently of the system master volume control. This separate volume control ⑥ is situated on the module's front panel and can be adjusted with a screwdriver. This microphone channel has first priority over all other inputs and prior to being activated is automatically preceded by the attention signal.

(b) 4 tone Chime/alarm input module LBB 1271/03

This attention signal generator is identical to the module LBB 1271/02 except that instead of two tones, four separate tones are generated. The four tones are as follows: 554 Hz, 440 Hz, 493 Hz and 329 Hz respectively Cis, A, B and E on the musical scale.

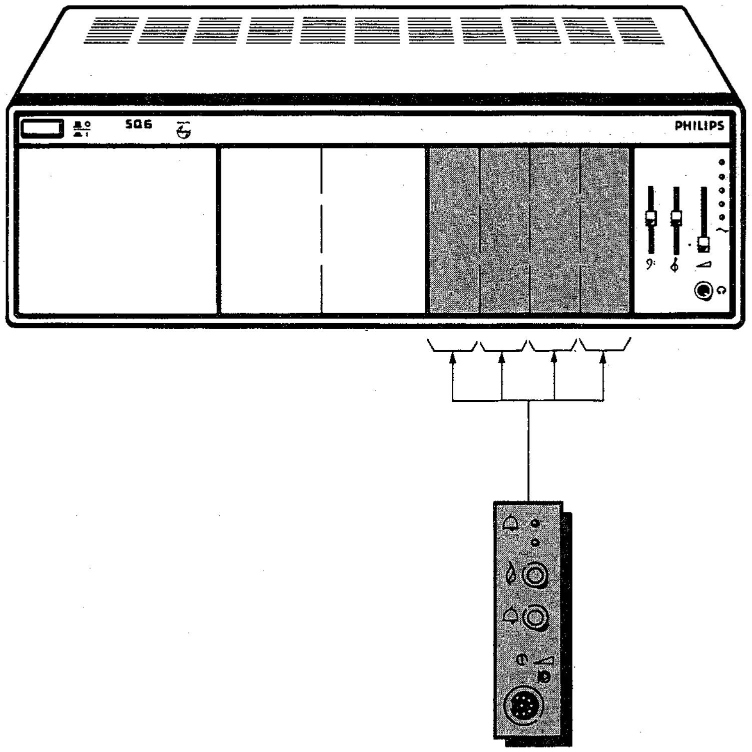


Fig.8

4.2 INSTALLATION

(a) Normal operation from front panel controls plus initiation of attention signal from a remotely located microphone connected to the module's input channel.

- Remove the amplifier's cover and locking bar as described in section 2.2 under "opening the amplifier".
- Choose a suitable mounting position on the front panel. See Fig. 8.
- Feed the module's cable plus connector through the opening at the front of the amplifier and insert the 16 pin plug into the polarized 16 pole socket (X17) on the main printed circuit board as shown in Fig. 9.
- Fit the module into the front of the amplifier housing, replace the locking bar and fit the cover.

(b) Remote control of alarm and/or time signal or connection to a remotely located L.E.D. alarm indicator. See Fig. 10.

- This requires, in addition to operations given under **(a) Normal operations**...., the fitting of a 15 pole Mate-N-lok connector to the rear panel of the amplifier and the use of the 5 core cable supplied, on delivery, with this module.
  The 15 pole connector, which should be located at position C on the rear panel, can either be ordered separately under the type number LBB 1266/00 (Mate-N-lok) connector set) or is available, on delivery, with the Loudspeaker zone selector module LBB 1271/04.
  The 5 core cable should be fitted between the tags on the module and the connector block as shown in Fig. 10. External connections for time signals, alarm signals and alarm indicator are also shown in Fig. 10.

(c) Adjustments

- On delivery, the chime/alarm input module is fitted with two small interconnection blocks, one for interrupting the signal line from the microphone input (D in Fig. 10) and the other for interrupting the signal line from the cassette player module (OD in Fig. 10).
  These two interconnection blocks can be used in conjunction with the interconnection block on the cassette recorder LBB 1274/02 for standby or normal mode of operation as shown in table 2.
- The signal level of the attention signal, the alarm signal and the time signal is adjusted independently of the system master volume by means of a potentiometer on this module's printed circuit board. See Fig. 10. (P)

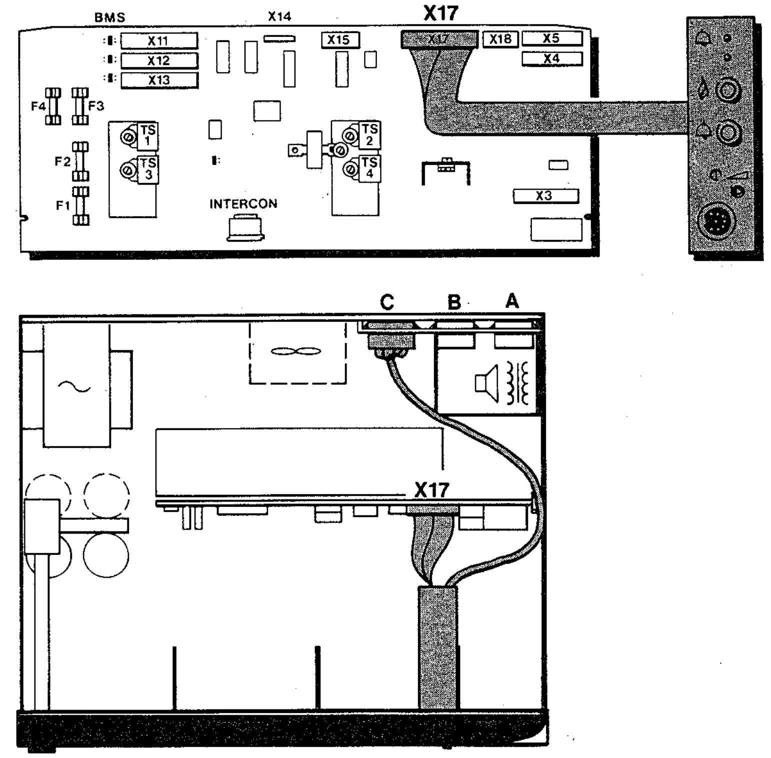

BMS
X14
X17
X11
X12
X13
X15
X17
X18
X5
X4
F4
F3
F2
F1
TS 1
TS 3
TS 2
TS 4
INTERCON
X3
C
B
A
X17

Fig.9

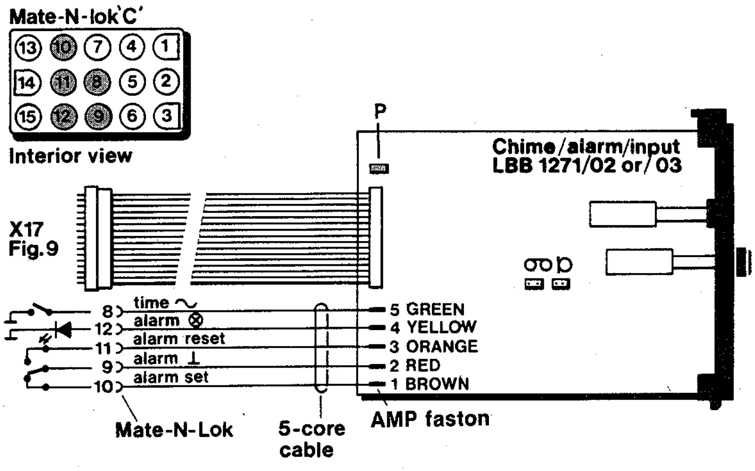

Mate-N-lok'C'
13
10
7
4
1
14
11
8
5
2
15
12
9
6
3
Interior view
X17
Fig.9
P
Chime/alarm/input
LBB 1271/02 or/ 03
8
time ∿
12
alarm ⊗
11
alarm reset
9
alarm ⊥
10
alarm set
5 GREEN
4 YELLOW
3 ORANGE
2 RED
1 BROWN
Mate-N-Lok
5-core cable
AMP faston

Fig.10

Table 2

Cassette recorder fitted		
Cassette in Standby mode		Cassette in Normal mode
Pre-recorded Alarm messages only	Pre-recorded messages + live alarm messages	Music source
🖭	🖭	☒🖭
☒🎤	🎤	🎤

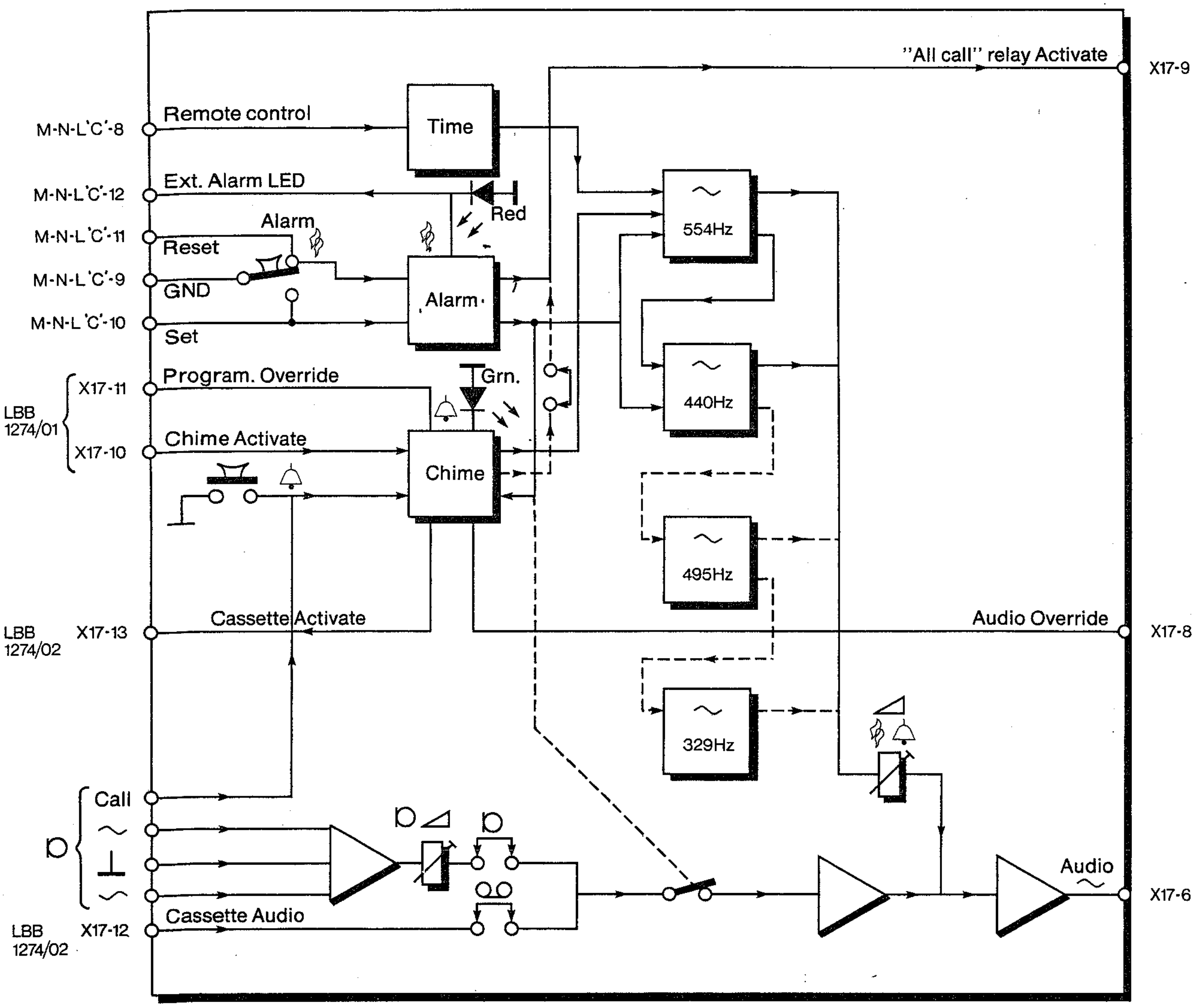
No cassette recorder	
Priority microphone on chime module + alarm or chime or time signal	Alarm chime or time signal only
☒🖭	☒🖭
🎤	☒🎤

🖭 or 🎤 = Interconnection block fitted
☒🖭 or ☒🎤 = Interconnection block removed

4.3 TECHNICAL DATA

	Microphone input 8 pole 262° socket
500 mV - 8 V max.	**Input sensitivity**
⩾ 30 k Ω	**Input impedance** (symmetrical)
⩾ 15 k Ω	**Input impedance** (asymmetrical)
100-20000 Hz (−1 dB)	**Frequency response**
< 0.2%	**Distortion**
⩾ 75 dB	**Signal-to-noise ratio** related to nominal output
LBB 1271/02 LBB 1271/03	**Chime signal 2 tone** **4 tone**
554 Hz ± 15 Hz +440 Hz ± 15 Hz	**Chime 2 tone**
554 Hz ± 2 Hz +493 Hz ± 2 Hz 440 Hz ± 2 Hz +329 Hz ± 2 Hz	**4 tone**
555 Hz + 440 Hz	**Alarm signal** soft clipped sinewaves alternating continuously
⩾ 500 mV	**Alarm/Chime output** (pre-settable on p.c. board)
554 Hz	**Time signal** continuous
112 x 30 x 137 mm 1E	**Dimensions** (H x W x D)
0.20 kg LBB 1271/02 0.25 kg LBB 1271/03	**Weight**

4.4 BLOCK DIAGRAM LBB 1271/02/03 CHIME/ALARM/INPUT MODULE


"All call" relay Activate
X17-9
M-N-L'C'-8
Remote control
Time
M-N-L'C'-12
Ext. Alarm LED
Red
M-N-L'C'-11
Alarm
Reset
M-N-L'C'-9
GND
Alarm
M-N-L'C'-10
Set
554Hz
440Hz
X17-11
Program. Override
Grn.
LBB 1274/01
X17-10
Chime Activate
Chime
495Hz
LBB 1274/02
X17-13
Cassette Activate
Audio Override
X17-8
329Hz
Call
Audio
X17-6
LBB 1274/02
X17-12
Cassette Audio

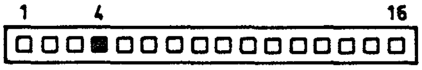
4.5 PARTS LIST LBB 1271/02 - LBB 1271/03 CHIME/ALARM/INPUT MODULE

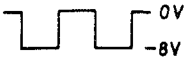
Code number	Description
5322 454 44026	Front plate
5322 414 14028	Button (green-chime)
5322 414 14031	Button (red - alarm)
4822 276 10558	Switch (chime)
4822 276 10543	Switch (alarm)
5322 101 34033	Potentiometer 10 k log.
5322 267 54107	Socket (8-p 262°)
5322 130 34959	LED TLG 123A (green)
5322 130 34957	LED TLR 123 (red)

4.6 CHECKLIST FOR FAULT LOCATION

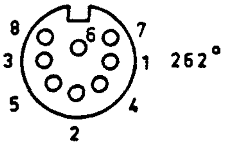
Chime/alarm/input module

Connector X17 on main p.c.b.



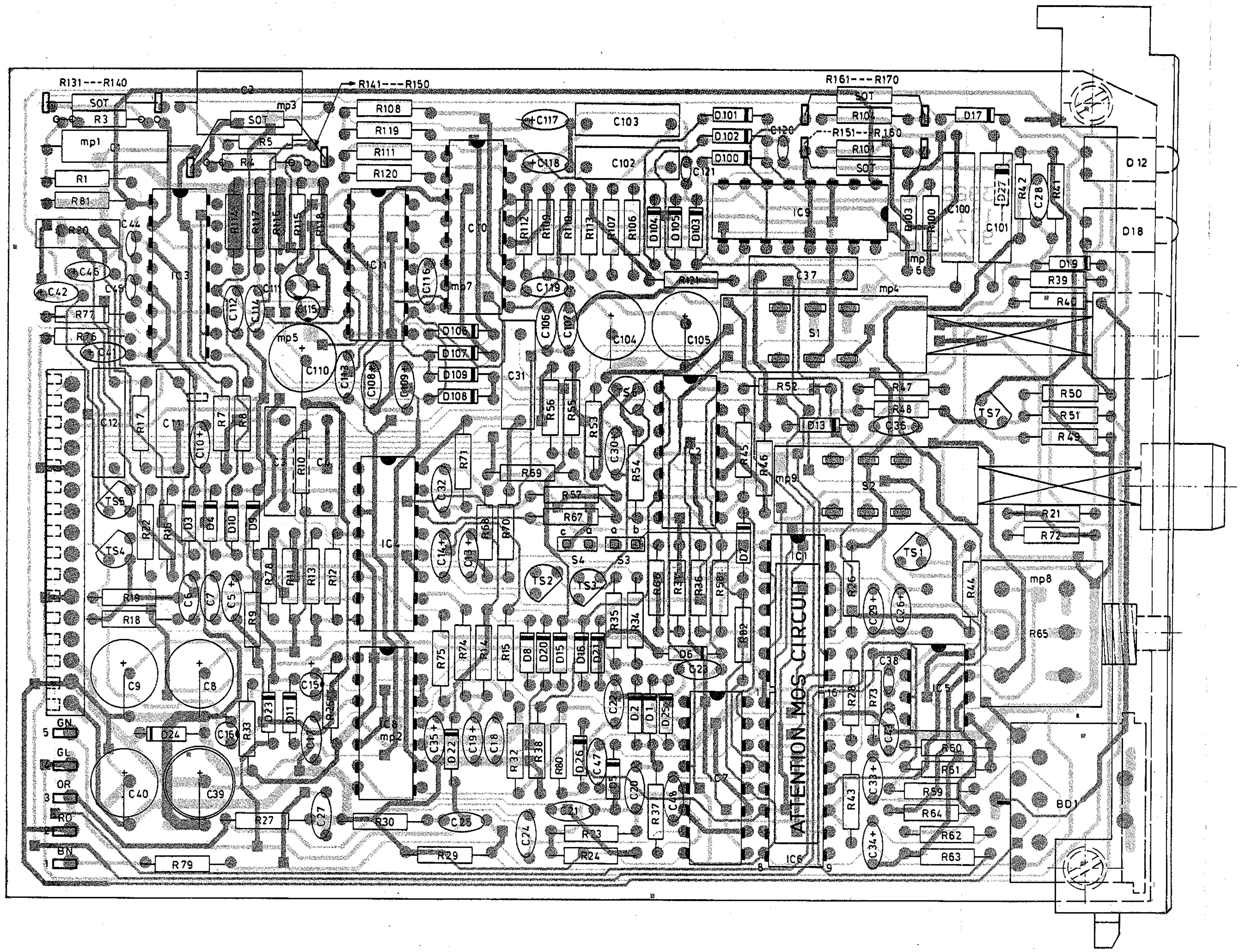
1.	-8 V
2.	0
3.	+8 V
4.	Polarizing key
5.	not connected
6.	LF out 500 mV nominal to main p.c.b. (chime-alarm-time-microphone cassette)
7.	not connected
8.	0/-8 (normally 0 V / during alarm, priority-input or chime -8 V)
9.	0/-1,5 (normally 0 V / during alarm -1,5 V)
10.	Chime initiate pulse from LBB 1274/01
11.	10 Hz during chime 
12.	LF in 500 mV nominal from cassette in stand-by mode
13.	-8/+3 (normally -8 V / after start of cassette player +3 V)
14.	-8/0 (normally -8 V / during priority input 0 V)
15.	not connected
16.	0

8-p 262° socket BD1 (Front view)

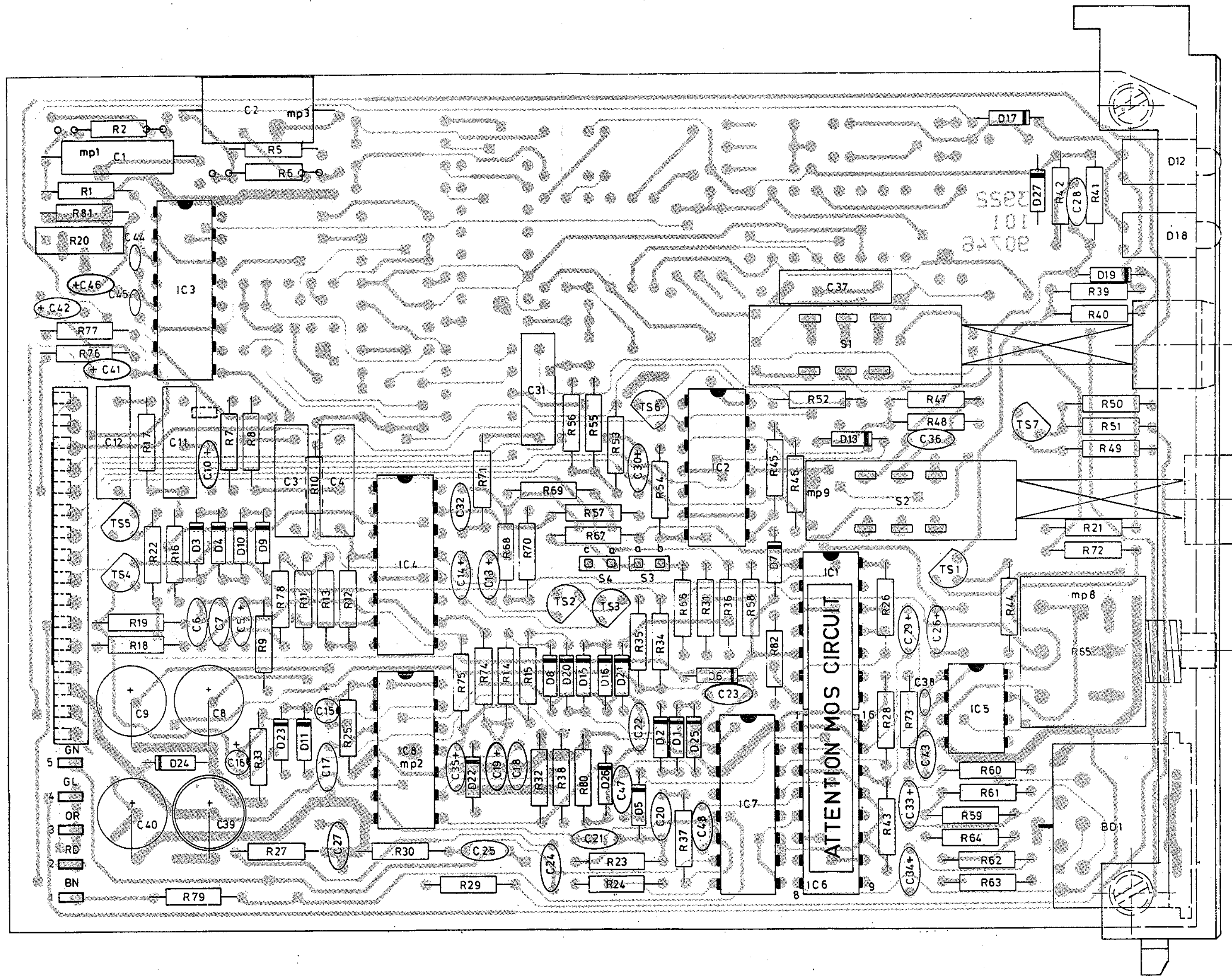


1. ∼	LF in symmetrical
3. ∽	
2.	0
4.	not connected
5.	not connected
6	Call
7.	+8 V
8.	-8 V

4.7.1 P.C.B. LAY-OUT LBB 1271/03

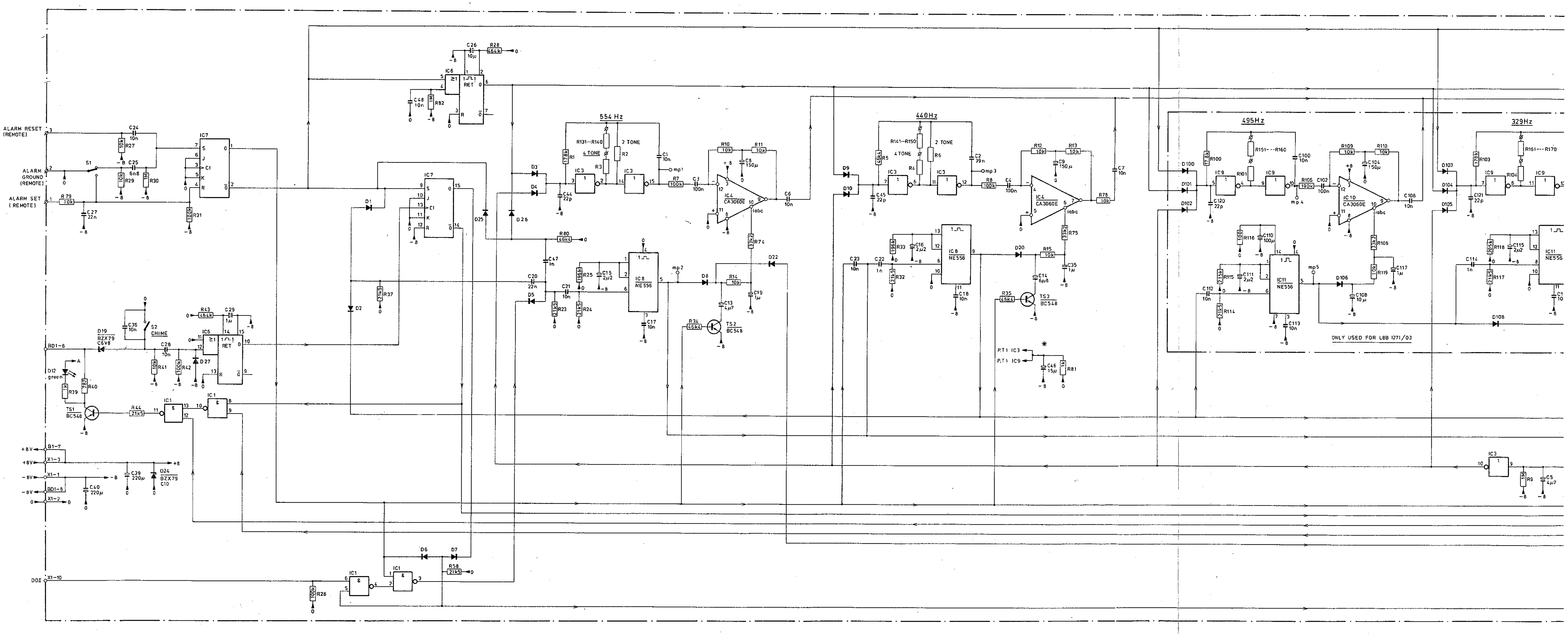

R131---R140
R141---R150
R161---R170
R151---R160
SOT
R3
R4
R5
R1
R81
R20
mp1
mp2
mp3
mp4
mp5
mp6
mp7
mp8
mp9
C2
C44
C45
C42
C43
C41
R77
R76
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC9
R108
R119
R111
R120
C117
C118
C103
C102
C119
C104
C105
C106
C110
C116
D101
D102
D100
C120
C121
C100
C101
D17
D27
D12
D18
D19
R39
R40
R50
R51
R49
R47
R48
R52
R121
C37
S1
S2
S3
S4
S5
TS1
TS2
TS3
TS4
TS5
TS7
D106
D107
D109
D108
C31
C32
C36
D13
R21
R72
R44
R65
C38
R60
R61
R59
R64
R62
R63
BD1
R43
C33
C34
C29
C26
R28
R73
R36
C9
C8
C40
C39
D24
R19
R18
R27
R30
R79
R29
R23
R24
C25
C24
C21
R32
R38
R80
D26
C47
C20
R37
D2
D1
D25
D6
C23
R75
R74
R14
R15
D8
D20
D15
D16
D21
R35
R34
R17
R7
R8
R10
R11
R13
R12
R9
R22
R16
D3
D4
D10
D9
C4
C7
C5
C12
C10
C14
C13
C15
C16
C18
C19
C22
C27
C30
C35
R33
D23
D11
R71
R69
R57
R67
R68
R70
R56
R55
R53
R54
R45
R46
R58
R82
GN
GL
OR
RO
BN
5
3
2
1
ATTENTION MOS CIRCUIT

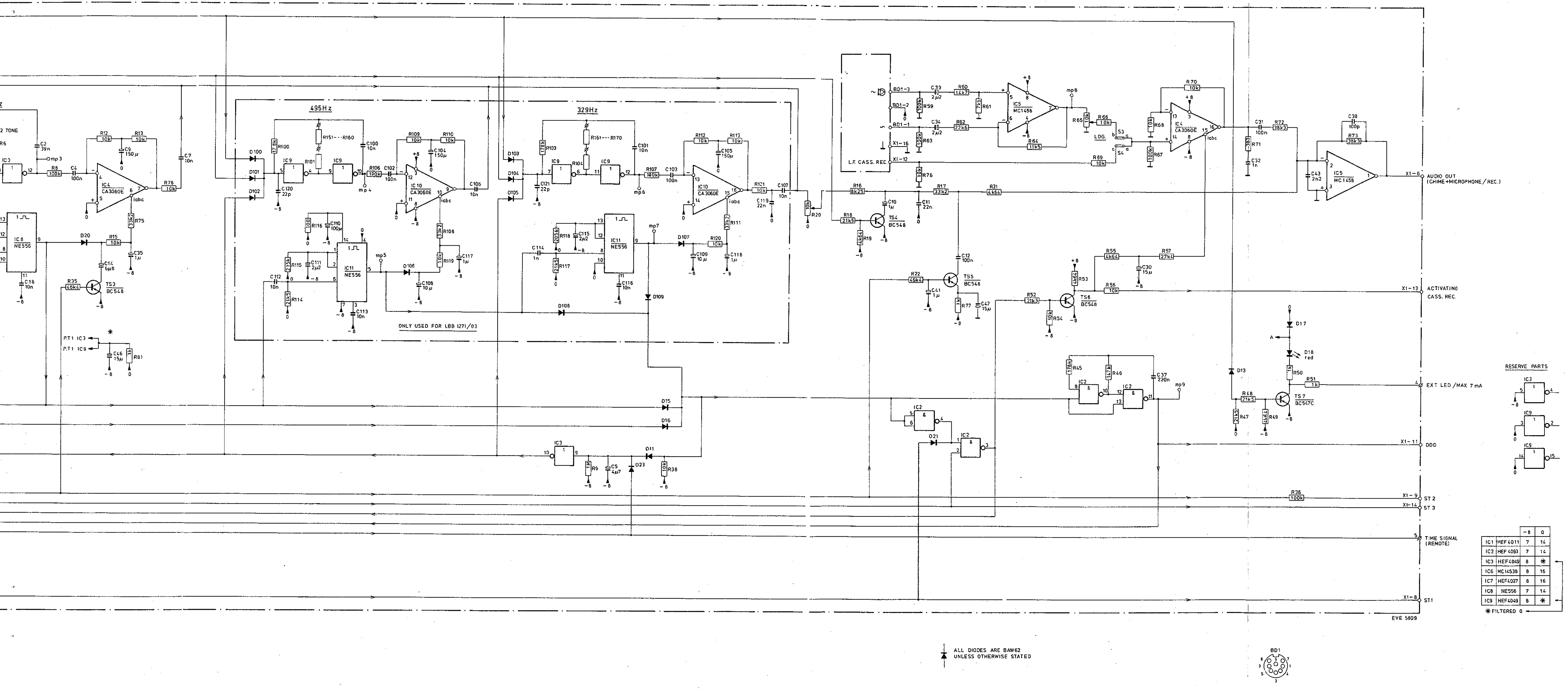
4.7.2 PCB LAYOUT LBB 1271/02


C2
mp3
R2
mp1
C1
R5
R6
R1
R81
R20
C44
IC3
C46
C45
C42
R77
R76
C41
D17
D12
D18
D27
R42
C28
R41
D19
R39
R40
C37
S1
C31
R36
R55
R53
TS6
C12
R17
C11
C10
R7
R8
C3
R10
C4
R71
C30
R54
C2
R45
R46
mp9
S2
R52
R47
R48
D13
C36
TS7
R50
R51
R49
TS5
R22
R16
D3
D4
D10
D9
IC4
C32
R69
R57
R67
R68
R70
S4
S3
D7
R21
R72
TS4
C14
C13
TS2
TS3
R56
R31
R36
R58
IC1
R26
TS1
R44
mp8
R19
R18
C6
C7
C5
R78
R11
R13
R12
R9
R75
R74
R14
R15
D8
D20
D15
D16
D21
R35
R34
D6
C23
R82
ATTENTION MOS CIRCUIT
C29
C26
C38
IC5
R65
C9
C8
C15
D23
D11
R25
IC8
mp2
C35
D22
C19
C18
R32
R38
R80
D26
C47
C22
D2
D1
D25
IC7
R28
R73
C43
GN
GL
OR
RD
BN
5
4
3
2
1
D24
C16
R33
C17
C40
C39
D5
C20
R37
C48
R43
C33
C34
R60
R61
R59
R64
R62
R63
BD1
R27
C27
R30
C25
C24
C21
R23
R24
IC6
8
9
16
R29
R79

EVE 5827

Chime/alarm/input


ALARM RESET (REMOTE)
ALARM GROUND (REMOTE)
ALARM SET (REMOTE)
S1
IC7
IC6
RET
554 Hz
440Hz
495Hz
329Hz
2 TONE
4 TONE
R131---R140
R141---R150
R151---R160
R161---R170
IC3
IC4
CA3060E
IC8
NE556
IC9
IC10
IC11
mp1
mp2
mp3
mp4
mp5
TS1 BC548
TS2 BC548
TS3 BC548
D12 green
D19 BZX79 C6V8
D24 BZX79 C10
S2 CHIME
P.T.1 IC3
P.T.1 IC9
ONLY USED FOR LBB 1271/03
+8V
-8V
B1-7
X1-3
X1-1
BD1-6
BD1-8
X1-7
X1-10
DDI
IC1


495Hz
329Hz
IC4 CA3060E
IC8 NE556
IC9
IC10 CA3060E
IC11 NE556
IC5 MC1458
IC4 CA3060E
IC5 MC1458
IC2
IC3
TS3 BC548
TS4 BC548
TS5 BC548
TS6 BC548
TS7 BC547C
D17
D18 red
D13
LOG.
S3
S4
L.F. CASS. REC.
BD1-3
BD1-2
BD1-1
X1-16
X1-12
mp3
mp4
mp5
mp6
mp7
mp8
mp9
P.T.1 IC3
P.T.1 IC9
ONLY USED FOR LBB 1271/03
X1-6
AUDIO OUT (CHIME+MICROPHONE/REC.)
X1-13
ACTIVATING CASS. REC.
EXT LED /MAX 7 mA
X1-11
DDO
X1-9
ST 2
X1-14
ST 3
TIME SIGNAL (REMOTE)
X1-8
ST1
EVE 5809
RESERVE PARTS
BD1

		−8	0
IC1	HEF 4011	7	14
IC2	HEF 4093	7	14
IC3	HEF4049	8	✱
IC6	MC14538	8	16
IC7	HEF4027	8	16
IC8	NE556	7	14
IC9	HEF4049	8	✱

✱ FILTERED 0

ALL DIODES ARE BAW62
UNLESS OTHERWISE STATED

4.8 CHIME - ALARM - INPUT MODULE
LBB 1271/02 - LBB 1271/03

SQ6 4 channel universal input 5

- 5.1 DESCRIPTION
- 5.2 INSTALLATION
- 5.3 TECHNICAL DATA
- 5.4 BLOCK DIAGRAM
- 5.5 CHECKLIST FOR FAULT LOCATION
- 5.6 P.C.B. LAY-OUT
- 5.7 PARTS LIST
- 5.8 CIRCUIT DIAGRAM

4 channel universal input

5.1 DESCRIPTION

This module like all SQ6 modules offers a range of application possibilities. It can be used in conjunction with the chime/ alarm input LBB 1271/02 and the loudspeaker zone selector module LBB 1271/ 04.
All of the module's four input channels are universal inputs and can be used with not only the SQ6 electret condenser microphones but also with all forms of music sources with line level outputs.

Priority functions

This module can be programmed so that anyone of three forms of interchannel priority exists. These priority functions, as follows, can be selected by means of an interconnection block on the main printed circuit board:

- mixing mode: all input channels have the same priority and all signals can be mixed together.
- serial/cascade priority mode: channel 1 has priority over channels 2, 3 and 4. Channel 2 has priority over 3 and 4 and channel 3 has priority over 4.
- 1st in 1st served priority mode — the first channel switched on blocks all other inputs.

When the module is used in conjunction with the chime/alarm input module the following situation can occur when the alarm signal is switched on:

- When cascade or 1st in 1st served priority modes have been selected, the initiation of the alarm signal will cause these channel to be switched off. These input channels will remain switched off even when the alarm signal is switched off.
- In the case of the mixing mode, all channels will be switched off during the period of the alarm signal but will be restored when the alarm signal is switched off.

A combination of two or three 4 channel universal input modules can be used, which gives a range of 4, 8 or 12 available input channels.
There are three interconnection blocks on the main printed circuit board for setting the priority function of each 4 channel input module.

There is a built-in left to right cascade priority, however, when more than one of these input modules are used. This does not apply, however, to those modules preset to the mixing mode. Modules operating in the mixing mode are normally positioned to the right on the front panel.

Each channel (see Fig. 11) is provided with an on/off push button switch ①, a sliding potentiometer ② for adjustment of the input sensitivity, an LED status indicator ③ and an 8-pole 262° socket for input/output connections ④. An additional 16-pole cable connector ⑤ is provided on the underside of the module so that, if desired, the input/output connections can be made from the rearside of the cabinet.

The on/off switch on each channel operates in parallel with the on/off switch of the microphone connected to that channel. This means that the channel can be switched on or off from both positions.

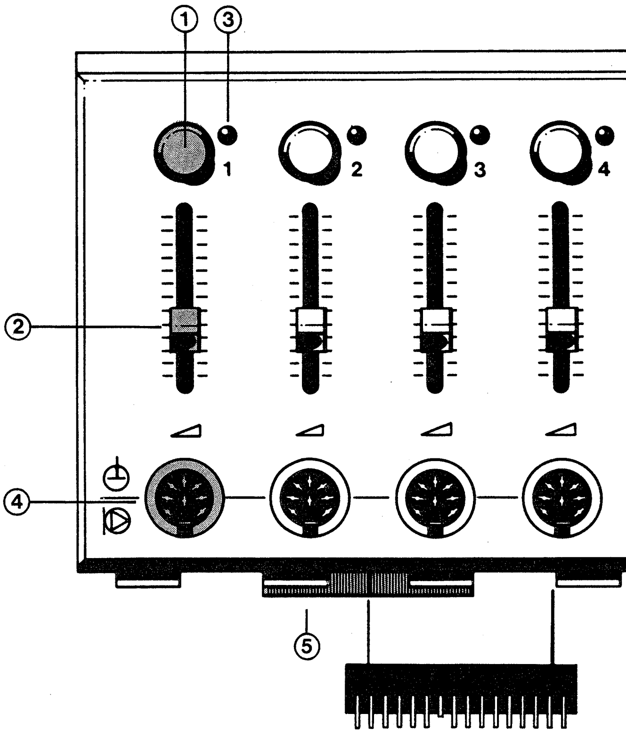


Fig.11

LBB 1274/01

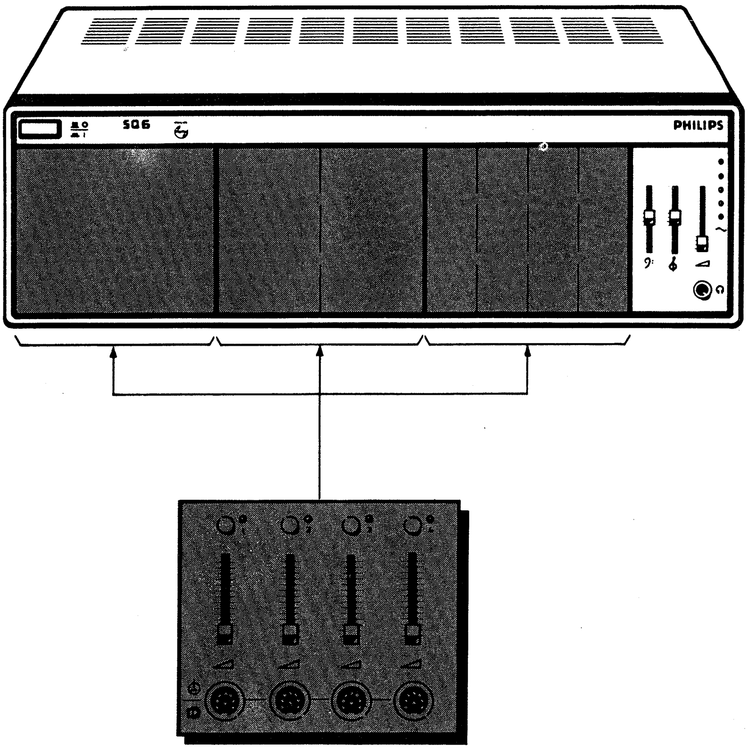


Fig.12

When the channel is switched off, the green LED ③ on that channel is off but when an attempt is made to switch the channel on, the LED can indicate one of four different states.

These states are as follows:
(a) LED on continuously — channel 'on'.
(b) LED flashing quickly — attention signal being generated — when the attention signal has finished the LED will be on continuously = status (a) = channel 'on'.
(c) LED flashing slowly — system engaged by another input with a higher priority — after a few seconds the LED will stop flashing and will be turned off.
(d) if the LED does not react and remains off, either the alarm signal is being generated (in which case it will be heard) or the apparatus is not switched on.

On delivery, the module LBB 1274/01 has four wire links, one for each channel, mounted on its printed circuit board. See Fig. 14. The presence of these links mean that the attention signal will be generated (when used in combination with the chime/alarm input module LBB 1271/02) before a channel becomes open.

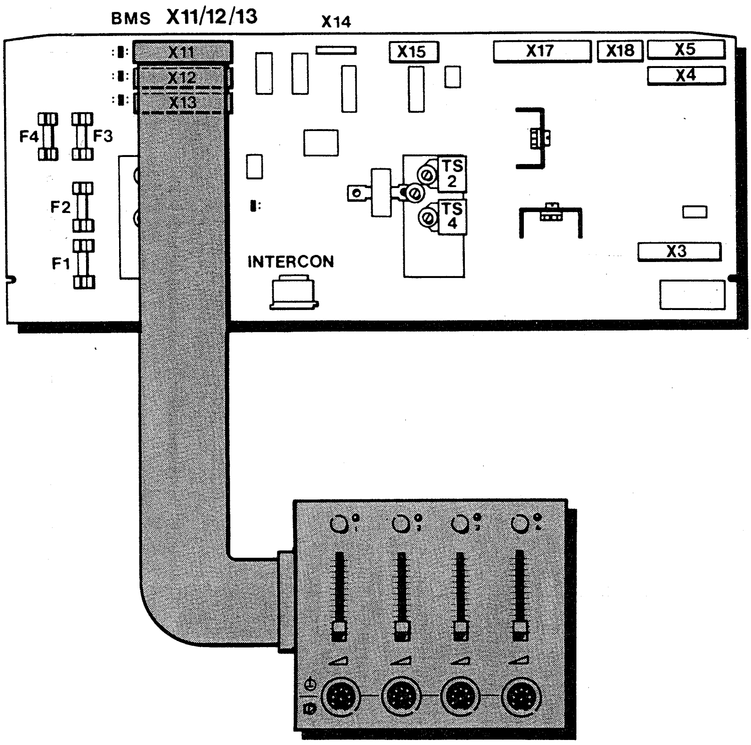


Fig. 13

Recording output

A tape recorder can be connected to each channel for recording purposes. Recordings can be taken of any signal that is being relayed. The chime signal or alarm signal will not, however, be recorded.

Volume control

The amplifier's audio output level can be adjusted with the channel fader in conjunction with the master volume control on the master module.
Initially when setting up the amplifier, the master volume is set to 75% of its maximum position (i.e. with a 10 dB reserve) and the channel faders set to give an output of the required level which is the same for each channel.

Note:
Once the channel faders have been set, the black knobs can be removed, so that the settings can not be easily altered.

5.2 INSTALLATION

(a) Assembly into the SQ6 housing

Up to three 4 channel universal input modules can be installed into an SQ6 amplifier housing. See Fig. 12. The 16 pin plug on each input module should be connected to one of the three 16 pole polarized sockets on the main p.c.board indicated as X11, X12 and X13 in Fig. 13.
A built-in series priority circuit exists from X11 through to X13, so it is recommended that if only one module is used, it is connected to X11 and if more than one module is used that the modules are connected to X11, X12 and X13 according to their left to right position on the front of the amplifier.
On the two right hand compartments for this module, removal of the covers of the entry ports for the module's 16-pole connector (X1) is necessary. This can be achieved with the aid of a small sharp knife.

(b) Adjustments

(i) Choice of input priorities.

See Fig. 13.

Adjacent to each socket X11, X12 and X13 on the main p.c. board is an interconnection block which can be set to one of three positions, marked **B**, **M** and **S**.

B represents the first in, first served priority (Blocking).

M represents the Mixing mode in which all inputs have the same priority.

S represents the Serial priority mode.

The positions of these interconnection blocks should be arranged to suit the installation requirements.

(ii) Adaption for use *without* the chime/alarm module when that module is fitted in the system.

The wire links, present on delivery, should be cut on each channel that is **not** to initiate the two or four tone chime signal. See Fig. 14.

(iii) Adjustment of input sensitivity.

On delivery the input sensitivity of each input is set to a line level of 500 mV which matches the level generated by the SQ6 microphones.

To change the input sensitivity to 100 mV, for use with music sources, the solder pads shown in Fig. 14, which are on the rear of the board, should be soldered together on the desired channels.
The plug pin connections for use with the 8 pole DIN socket for each input is also shown in Fig. 14 viewed from the front of the module.

(iv) Adaptation for use with the Loudspeaker zone selector module LBB 1271/04.

One of the 4-core cables, delivered with the module LBB 1271/04 must be connected, in this case, between the input module (X3) and the module LBB 1271/04. (X1). See section 8.2. When this cable is fitted, loudspeakers in preselected zones can be switched on/off when an input channel switch is operated.

(c) Connection of a tape recorder.

A tape recorder may be connected to any input via a diode cable for both recording and for playback purposes.

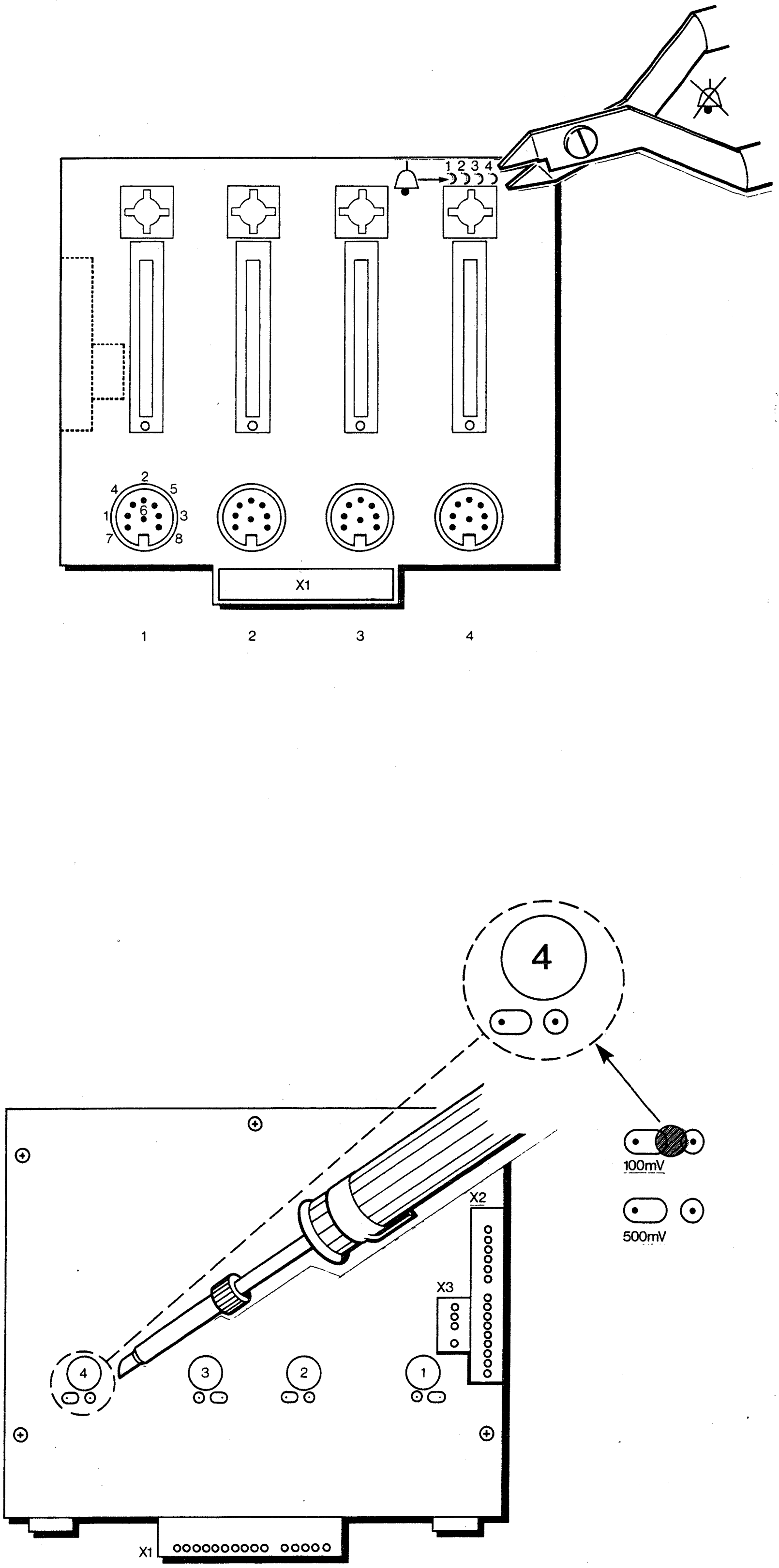


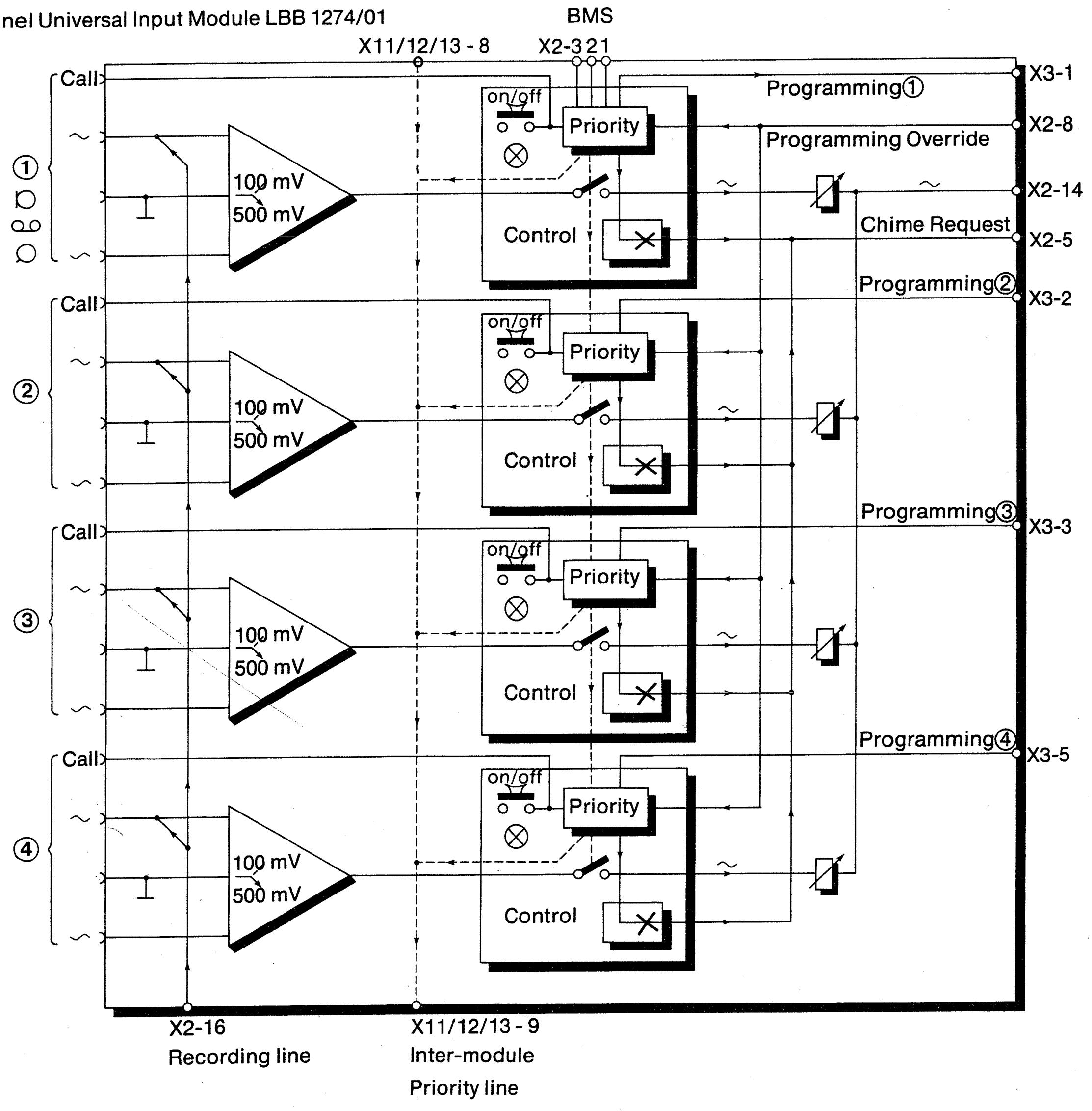
Fig. 14

5.3 TECHNICAL DATA

	Universal inputs 1-4 8-pole sockets or 16-pole AMP
500 mV - 8V max.	**Input sensitivity**
100 mV - 2V max.	**Modified sensitivity**
≥ 30 kΩ	**Input impedance** (symmetrical)
≥ 15 kΩ	**Input impedance** (asymmetrical)
30 - 20000 Hz (−1 dB)	**Frequency response**
< 0.2%	**Distortion**
≥ 82 dB	**Signal-to-noise ratio** related to nominal input
≥ 60 dB	**Cross-talk attenuation** between any two inputs
500 mV / 20 kΩ	**Tape playback** inputs suitable for recorders with an output of
330µV/kΩ max. 500 mV	**Tape recording** from any input
112 x 120 x 24 mm 4E	**Dimensions** (H x W x D)
210 g	**Weight**

5.4 BLOCK DIAGRAM

4 Channel Universal Input Module LBB 1274/01

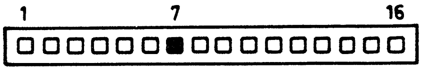

BMS
X11/12/13 - 8
X2-3 2 1
Call
①
②
③
④
on/off
Priority
Control
100 mV
500 mV
Programming①
Programming Override
Chime Request
Programming②
Programming③
Programming④
X3-1
X2-8
X2-14
X2-5
X3-2
X3-3
X3-5
X2-16
Recording line
X11/12/13 - 9
Inter-module
Priority line

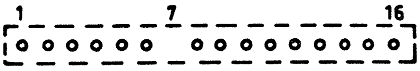
5.5 CHECKLIST FOR FAULT LOCATION

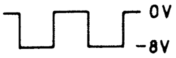
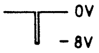
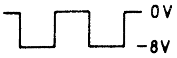
4 Channel input module

Connector X11/X12/X13 on main p.c.b.

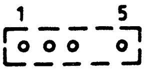
X2 on module p.c.b.



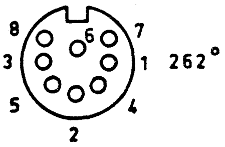


	PRIORITY MODE			REMARKS
	B	M	S	
1	0	0	-8	
2	-8	0	-8	
3	0/-8/-8	0/0/-8	0/0/-8	Channel off / channel on / alarm or priority input
4	2 Hz	2 Hz	2 Hz	busy signal 
5	Chime initiate pulse			 20 µsec.
6	10 Hz	10 Hz	10 Hz	 After call during chime
7	Polarizing key			
8	0/-8	0/-8	0/-8	normally 0 V / during alarm or priority input -8 V
9	0/-8	0/0	0/-8	channel off / channel on
10	0	0	0	
11	0	0	0	
12	+8 V	+8 V	+8 V	
13	-8 V	-8 V	-8 V	
14	LF out	LF out	LF out	to master module via main p.c.b.
15	0	0	0	
16	LF out	LF out	LF out	to tape recorder from main p.c.b.

Connector X3 on module p.c.b.



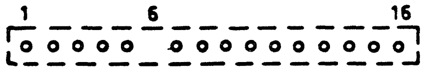
		channel off	channel on
1	channel 1	-8	+8
2	channel 2	-8	+8
3	channel 3	-8	+8
4	polarizing key		
5	channel 4	-8	+8



8-p 262° socket BD1-4

1,4 ~ 3,5 ∽	LF in	symmetrical	
1,4 ~ 2 ⊥	LF in	asymmetrical	
3,5 ~ 2 ⊥	LF out	to tape recorder	asymmetrical
6	Call		
7	+8 V		
8	-8 V		

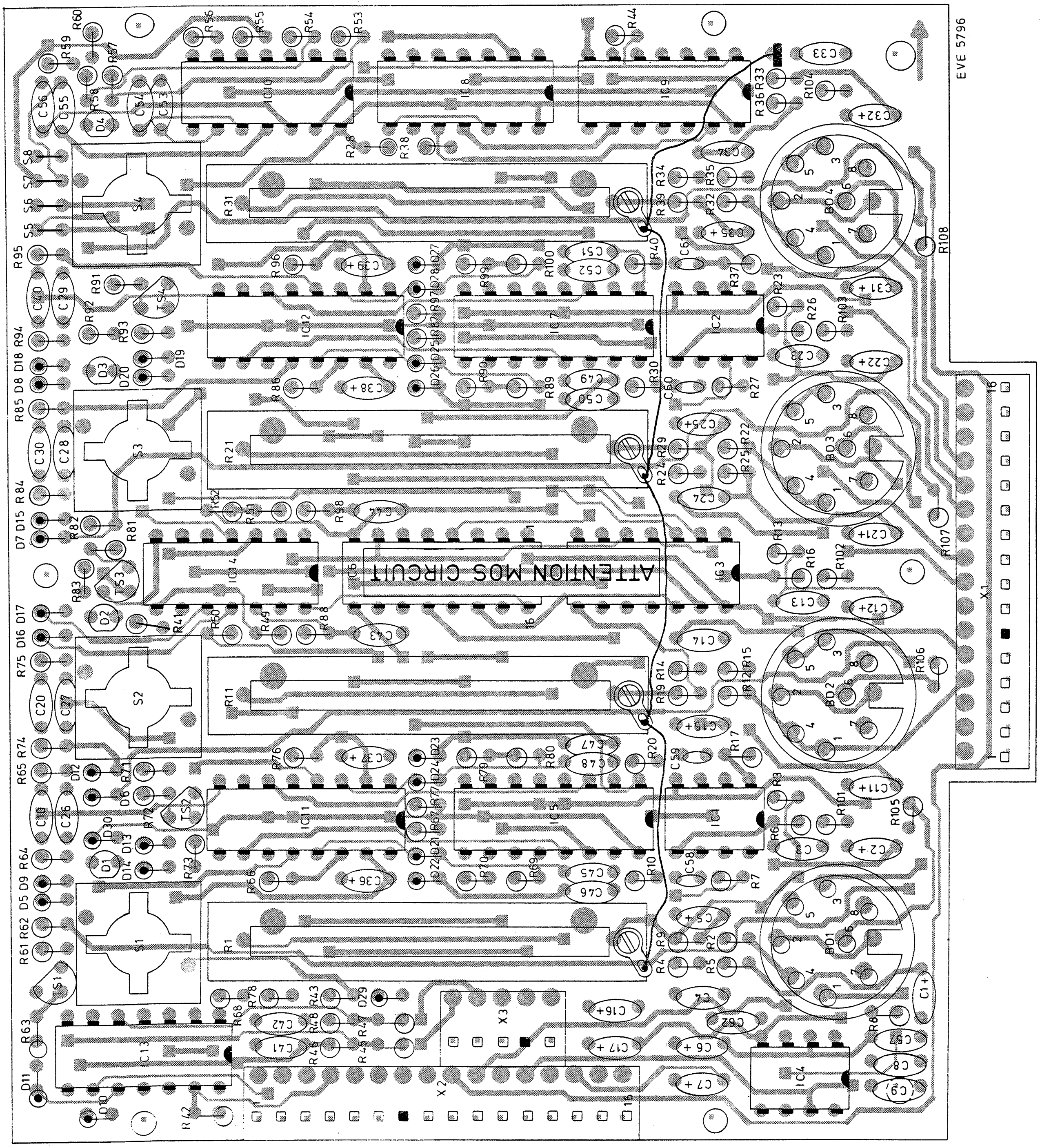
All connection points are in parallel with the connection points of X1 (see below).



Connector X1 on module p.c.b.

1 2	LF in channel 1
3	Call channel 1
4 5	LF in channel 2
6	Polarizing key
7	Call channel 2
8 9	LF in channel 3
10	Call channel 3
11 12	LF in channel 4
13	Call channel 4
14	0
15	+8 V
16	-8 V

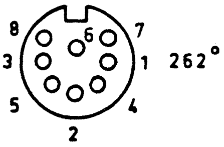
5.6 P.C.B. LAY-OUT LBB 1274/01 4-CHANNEL INPUT MODULE


EVE 5796
ATTENTION MOS CIRCUIT
X1
X2
X3
BO1
BO2
BO3
BO4
S1
S2
S3
S4
R1
R11
R21
R31

5.7 PART LIST LBB 1274/01 4-CHANNEL INPUT MODULE

Code number	Description
5322 447 54024	Front plate
5322 105 14051	Potentiometer 10 k
5322 414 26396	Knob
5322 267 54221	Socket (8-p 262°)
5322 130 34959	LED TLG 123A (green)

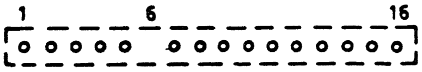
8-p 262° socket BD1-4



1,4	∼	LF in	symmetrical
3,5	∽		
1,4	∼	LF in	asymmetrical
2	⊥		
3,5	∼	LF out	to tape recorder asymmetrical
2	⊥		
6		Call	
7		+8 V	
8		-8 V	

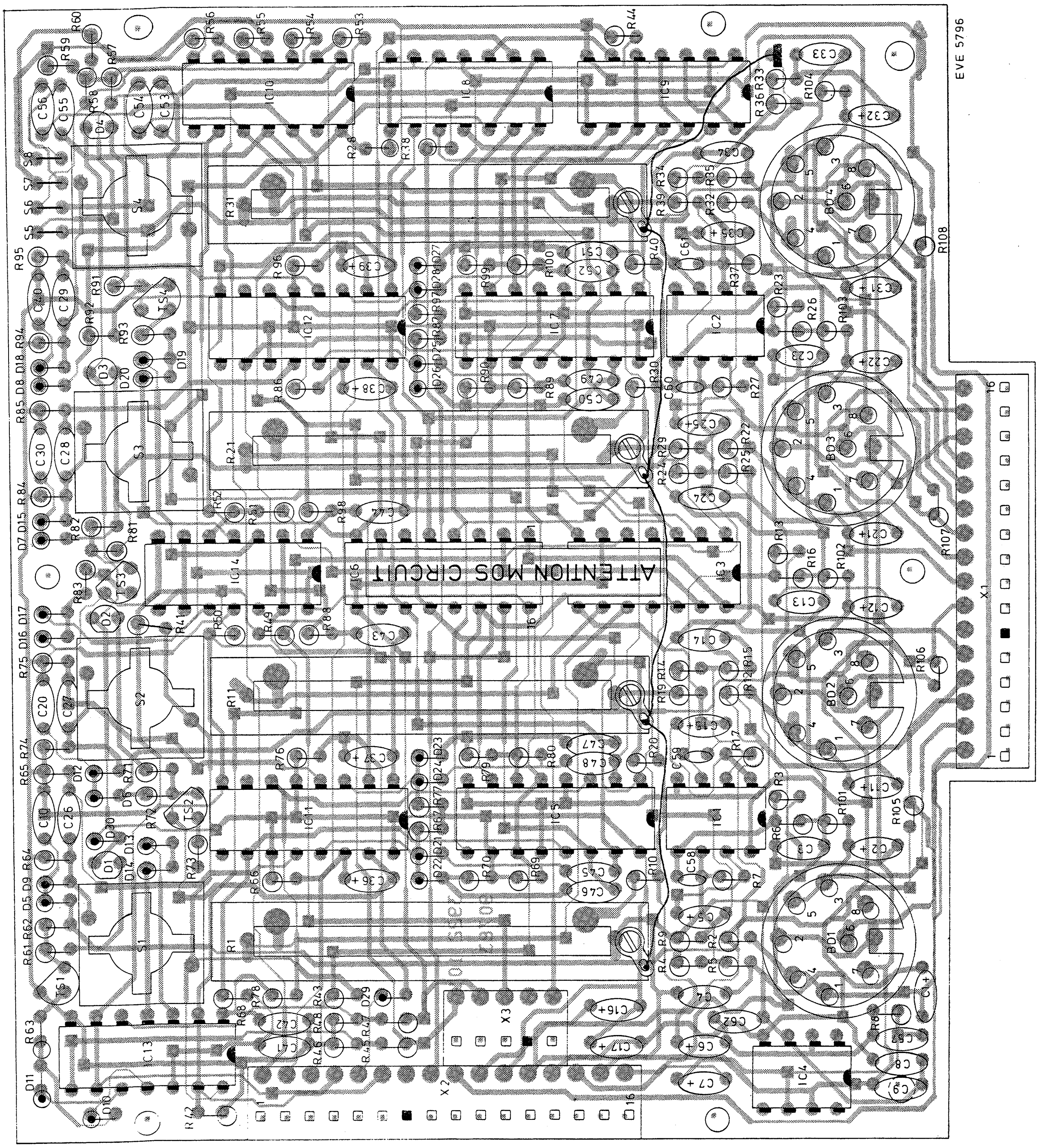
All connection points are in parallel with the connection points of X1 (see below).

Connector X1 on module p.c.b.



1	LF in channel 1
2	
3	Call channel 1
4	LF in channel 2
5	
6	Polarizing key
7	Call channel 2
8	LF in channel 3
9	
10	Call channel 3
11	LF in channel 4
12	
13	Call channel 4
14	0
15	+8 V
16	-8 V

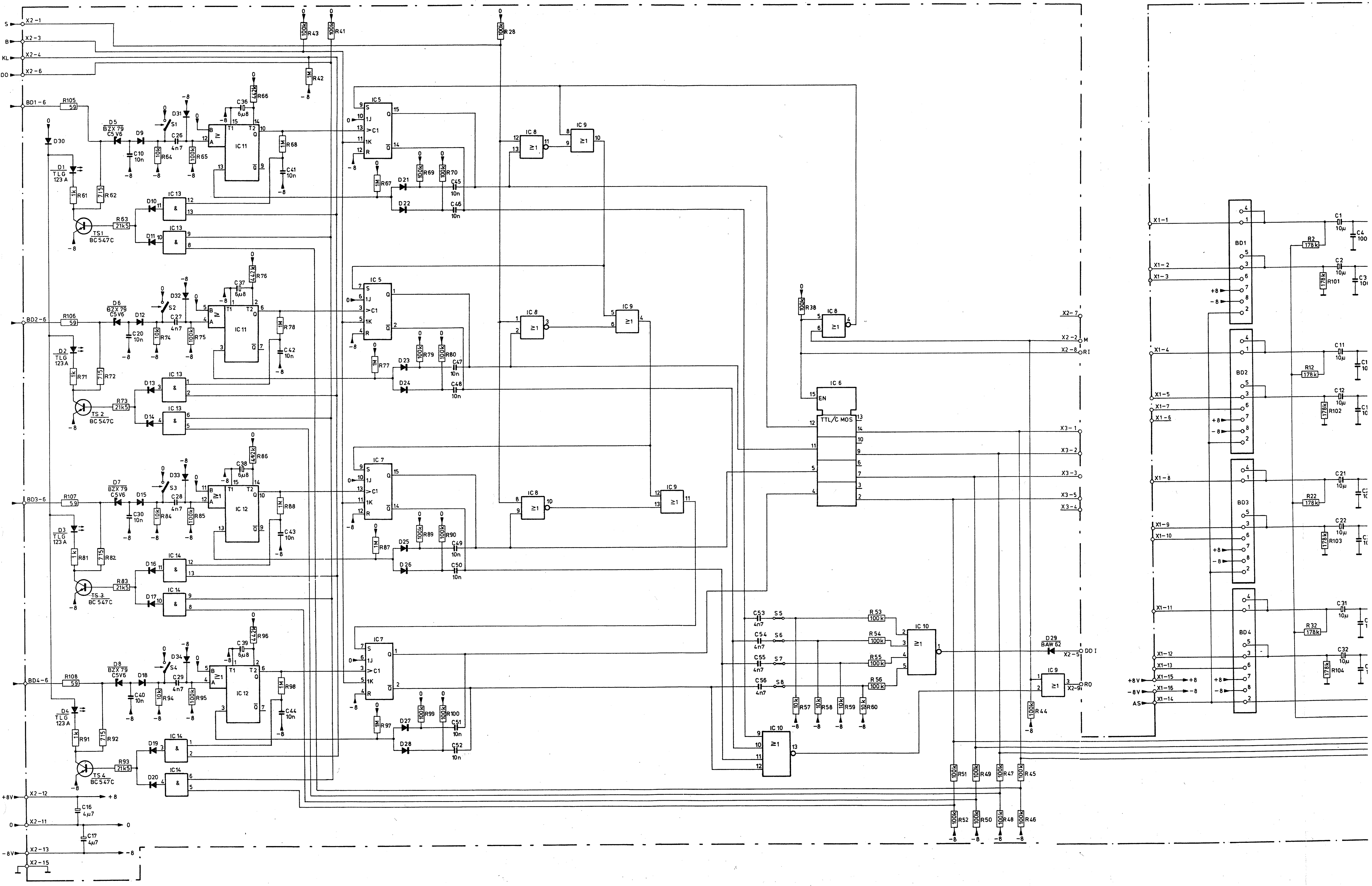
5.6 P.C.B. LAY-OUT LBB 1274/01 4-CHANNEL INPUT MODULE

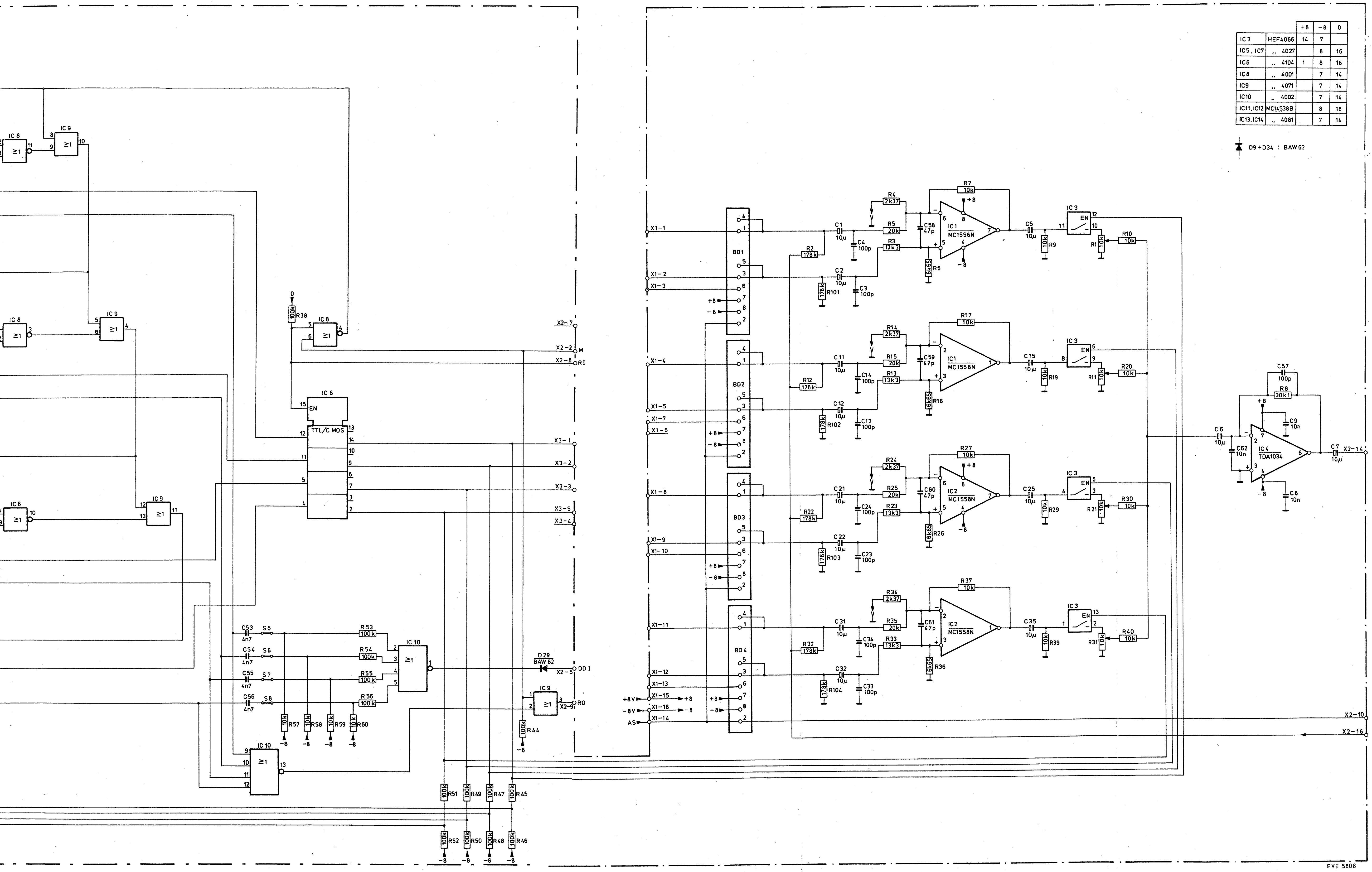

ATTENTION MOS CIRCUIT
EVE 5796
IC10
IC8
IC9
IC12
IC7
IC2
IC14
IC6
IC3
IC11
IC5
IC1
IC13
IC4
S1
S2
S3
S4
BO1
BO2
BO3
BO4
X1
X2
X3
TS1
TS2
TS3
TS4

5.7 PART LIST LBB 1274/01 4-CHANNEL INPUT MODULE

Code number	Description
5322 447 54024	Front plate
5322 105 14051	Potentiometer 10 k
5322 414 26396	Knob
5322 267 54221	Socket (8-p 262°)
5322 130 34959	LED TLG 123A (green)

4 channel universal input


S
X2-1
B
X2-3
KL
X2-4
DDO
X2-6
BD1-6
BD2-6
BD3-6
BD4-6
R105 59
R106 59
R107 59
R108 59
D30
D1 TLG 123 A
D2 TLG 123 A
D3 TLG 123 A
D4 TLG 123 A
R61 1k
R71 1k
R81 1k
R91 1k
R62 715
R72 715
R82 715
R92 715
D5 BZX 79 C5V6
D6 BZX 79 C5V6
D7 BZX 79 C5V6
D8 BZX 79 C5V6
D9
D12
D15
D18
D31
D32
D33
D34
S1
S2
S3
S4
C26 4n7
C27 4n7
C28 4n7
C29 4n7
C10 10n
C20 10n
C30 10n
C40 10n
R64 10k
R74 10k
R84 10k
R94 10k
R65 100k
R75 100k
R85 100k
R95 100k
C36 6μ8
C37 6μ8
C38 6μ8
C39 6μ8
R66 442k
R76 442k
R86 442k
R96 442k
IC 11
IC 12
T1
T2
R68 1M
R78 1M
R88 1M
R98 1M
C41 10n
C42 10n
C43 10n
C44 10n
IC 13
IC 14
D10
D11
D13
D14
D16
D17
D19
D20
R63 21k5
R73 21k5
R83 21k5
R93 21k5
TS1 BC 547C
TS 2 BC 547C
TS 3 BC 547C
TS 4 BC 547C
R43 100k
R41 100k
R42 1M
R28 100k
IC5
IC 7
S
1J
>C1
1K
R
Q
R67 1M
R77 1M
R87 1M
R97 1M
R69 100k
R70 100k
R79 100k
R80 100k
R89 100k
R90 100k
R99 100k
R100 100k
D21
D22
D23
D24
D25
D26
D27
D28
C45 10n
C46 10n
C47 10n
C48 10n
C49 10n
C50 10n
C51 10n
C52 10n
IC 8
IC 9
≥1
R38 100k
IC 6
EN
TTL/C MOS
X2-7
X2-2 M
X2-8 RI
X3-1
X3-2
X3-3
X3-5
X3-4
C53 4n7
C54 4n7
C55 4n7
C56 4n7
S5
S6
S7
S8
R53 100k
R54 100k
R55 100k
R56 100k
R57 10k
R58 10k
R59 10k
R60 10k
IC 10
D29 BAW 62
X2-5 DDI
X2-9 RO
R44 100k
R51 100k
R49 100k
R47 100k
R45 100k
R52 100k
R50 100k
R48 100k
R46 100k
+8V
X2-12
+8
C16 4μ7
0
X2-11
C17 4μ7
-8V
X2-13
-8
X2-15
X1-1
X1-2
X1-3
X1-4
X1-5
X1-7
X1-6
X1-8
X1-9
X1-10
X1-11
X1-12
X1-13
X1-15
X1-16
X1-14
+8V
-8V
AS
BD1
BD2
BD3
BD4
C1 10μ
C4 100
C2 10μ
C3
C11 10μ
C12 10μ
C21 10μ
C22 10μ
C31 10μ
C32 10μ
R2 178k
R12 178k
R22 178k
R32 178k
R101 178k
R102 178k
R103 178k
R104 178k



		+8	−8	0
IC 3	HEF4066	14	7	
IC5 , IC7	,, 4027		8	16
IC6	,, 4104	1	8	16
IC8	,, 4001		7	14
IC9	,, 4071		7	14
IC10	,, 4002		7	14
IC11, IC12	MC14538B		8	16
IC13, IC14	,, 4081		7	14

D9 ÷ D34 : BAW62

IC 8
IC 9
≥1
IC 6
EN
TTL/C MOS
R38
100k
IC 10
C53 4n7
C54 4n7
C55 4n7
C56 4n7
S5
S6
S7
S8
R 53 100k
R 54 100k
R 55 100k
R 56 100k
R57
R58
R59
R60
10k
D29 BAW 62
R44
R51
R52
R49
R50
R47
R48
R45
R46
X2−7
X2−2 M
X2−8 RI
X3−1
X3−2
X3−3
X3−5
X3−4
X2−5 DD I
X2−9 RO
X1−1
X1−2
X1−3
X1−4
X1−5
X1−6
X1−7
X1−8
X1−9
X1−10
X1−11
X1−12
X1−13
X1−14
X1−15
X1−16
+8V
−8V
AS
BD1
BD2
BD3
BD4
C1 10µ
C2 10µ
C3 100p
C4 100p
R2 178k
R101
R4 2k37
R5 20k
R3 13k3
C58 47p
R6 6k65
R7 10k
IC1 MC1558N
C5 10µ
R9 10k
IC 3
R1 10k
R10 10k
R11
R12
R14
R15
R16
R17
R20
C11
C12
C13
C14
C15
C59
R102
R19
IC2 MC1558N
R21
R22
R23
R24
R25
R26
R27
R29
R30
C21
C22
C23
C24
C25
C60
R103
R31
R32
R33
R34
R35
R36
R37
R39
R40
C31
C32
C33
C34
C35
C61
R104
C57 100p
R8 30k1
C6 10µ
C62 10n
C9 10n
C8 10n
IC4 TDA1034
C7 10µ
X2−14 L.F.
X2−10
X2−16 TO (TAPE OUT)
EVE 5808

5.8 4 CHANNEL UNIVERSAL INPUT MODULE LBB 1274/01

SQ6 AM/FM tuner

6.1 DESCRIPTION

6.2 INSTALLATION

6.3 TECHNICAL DATA

6.4 BLOCK DIAGRAM

6.5 AERIAL CONNECTION DIAGRAM

6.6 CHECKLIST FOR FAULT LOCATION

6.7 PARTS LIST

6.8 P.C.B. LAY-OUT

6.9 CIRCUIT DIAGRAM

6.1 DESCRIPTION

This compact radio receiver with built-in AFC has an AM medium wave channel ① and an FM VHF channel. See Fig. 15. ② Each channel can be selected by means of a push button switch (1x AM and 4x FM) each with a built-in cat's eye tell-tale indicator and tuned to a station by means of a screwdriver control adjacent to the channel switch. A small plastic trimmer is supplied for that purpose.
This tuner module is provided with a sliding volume control ③ so that the tuner's audio output level can be adjusted to match the output levels of the other modules.

A noise muting circuit prevents any disturbing noises being distributed by the loudspeaker system when switching from one station to another.
The headphone socket on the master module allows the audio output signal of the tuner to be monitored during tuning and whilst making level adjustment. The audio level on the headphone socket is independent of the setting of the master volume control.

The on/off push button ④ with cat's eye indicator is situated immediately below the volume control ③.

The aerial sockets which are fixed by means of two screws to the rear panel provide connections for both an FM aerial (coaxial) and an AM aerial (two pin).

(a) Station selection and tuning.

The AM channel or the FM channel may be selected by pressing the appropriate button on the modules front panel. In all five cases, the channel must be tuned to the desired station by turning the small tuning screw adjacent to the station selector button. A small plastic trimmer is supplied with each tuner module for this purpose.

During tuning, the audio output may be monitored via headphones connected to the headphone socket on the master module. In this case, the master volume control may be at its minimum setting.
If headphones are not available, the tuner's audio output may be monitored via the loudspeaker group which serves the area near the SQ6 amplifier installation. In that case, that loudspeaker group must be switched on and the listening level adjusted with the master volume control. In some application areas this tuning method whereby the tuner's output is relayed by the system loudspeakers, during the tuning procedure, is not recommended.

(b) Volume control.

The volume control fader on the modules front panel is used in conjunction with the master volume control to set up the required listening level being relayed by the system's loudspeakers.

When this module is used in conjunction with other music sources, the master volume control should be left with a 10 dB reserve (i.e. at 75% of its maximum position) and the final audio output from the tuner adjusted, by means of the tuner's volume control, so that it is equal to the audio outputs of the other music sources.

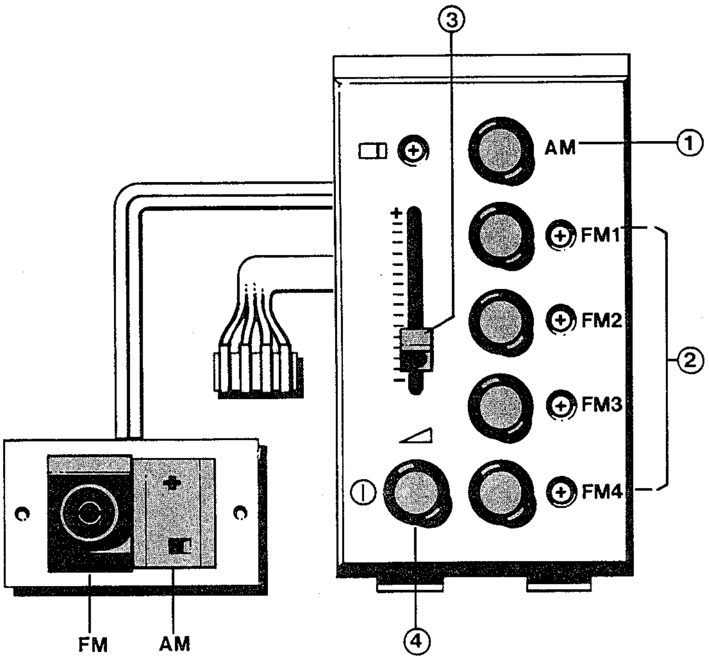


Fig. 15 LBB 1272/02

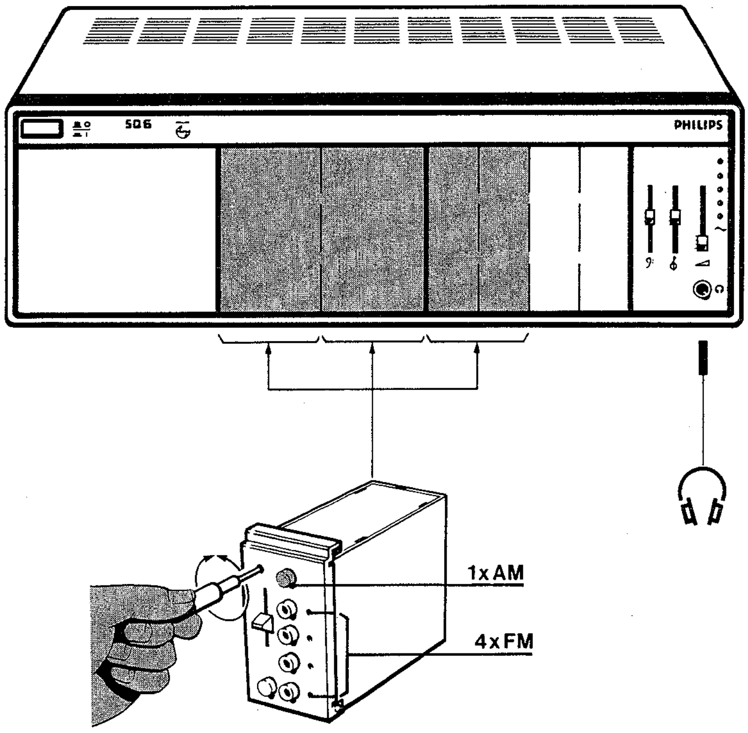


Fig. 16

6.2 INSTALLATION

Only one AM/FM tuner module may be fitted into an SQ6 amplifier housing. This module may be mounted in any one of the three positions shown in Fig. 16.
The 4 pole connector which terminates the 4 core ribbon cable on the module must be inserted into the 4 pole polarized socket X14 on the amplifier's main p.c. board. See Fig. 17.

The aerial cable for both AM and FM aerials must be routed via the cable clip on the right-hand-side of the main p.c. board and the combined aerial sockets must be mounted on the rear panel. A mounting position with a knock-out plate is provided on the rear panel for this aerial socket combination. See Fig. 18.
The two self-tapping screws supplied on delivery with the module should be used to secure the socket to the panel.

Coaxial feeder cable should be used for the FM aerial connection and a twin core feeder cable for the AM aerial. If no AM aerial plug is inserted, the screen of the FM feeder cable is connected internally by a socket switch to the AM aerial signal input and acts as an AM aerial.

Once the output level has been adjusted, the knob on the fader can be removed to prevent accidental alteration of the volume control setting.

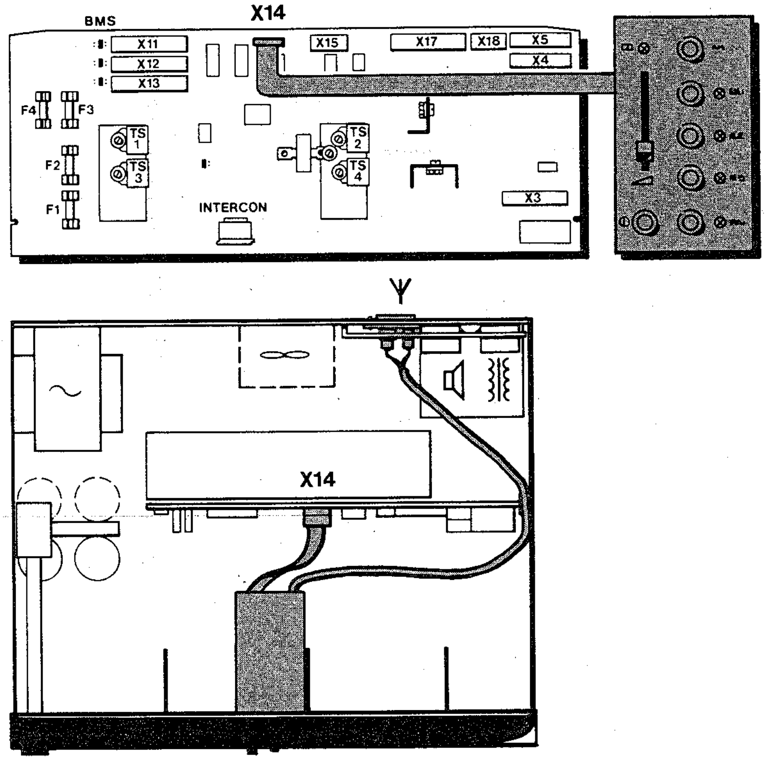


Fig. 17

6.3 TECHNICAL DATA

	FM channel (mono)
87.5 - 104 MHz	**Frequency range** guaranteed no reception below 85.5 MHz
75 Ω	**Aerial impedance**
≤ 2 μV	**Sensitivity** with 26 dB signal-to-noise at 40 kHz, 75 Ω
≥ 60 dB	**Selectivity** for 300 kHz off resonance
40 - 12000 Hz (−2 dB)	**Audio frequency response**
< 1%	**Distortion** (at 40 kHz deviation)
≥ 57 dB	**Signal-to-noise ratio** (at 40 kHz deviation)
≥ 35 dB	**Pilot frequency suppression**
≥ 40 dB	**AM suppression**
	AM channel (mono)
520-1605 kHz (577 m to 187 m)	**Frequency range**
468 kHz	**Intermediate frequency**
≤ 500 μV	**Sensitivity** with 26 dB Signal-to-noise
≤ 30 dB	**Selectivity** for 9 kHz off resonance
112 x 60 x 125 mm 2E	**Dimensions** (H x W x D)
710 g	**Weight**

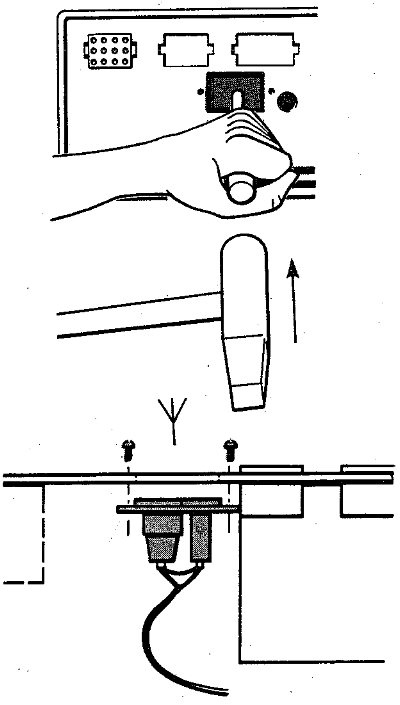
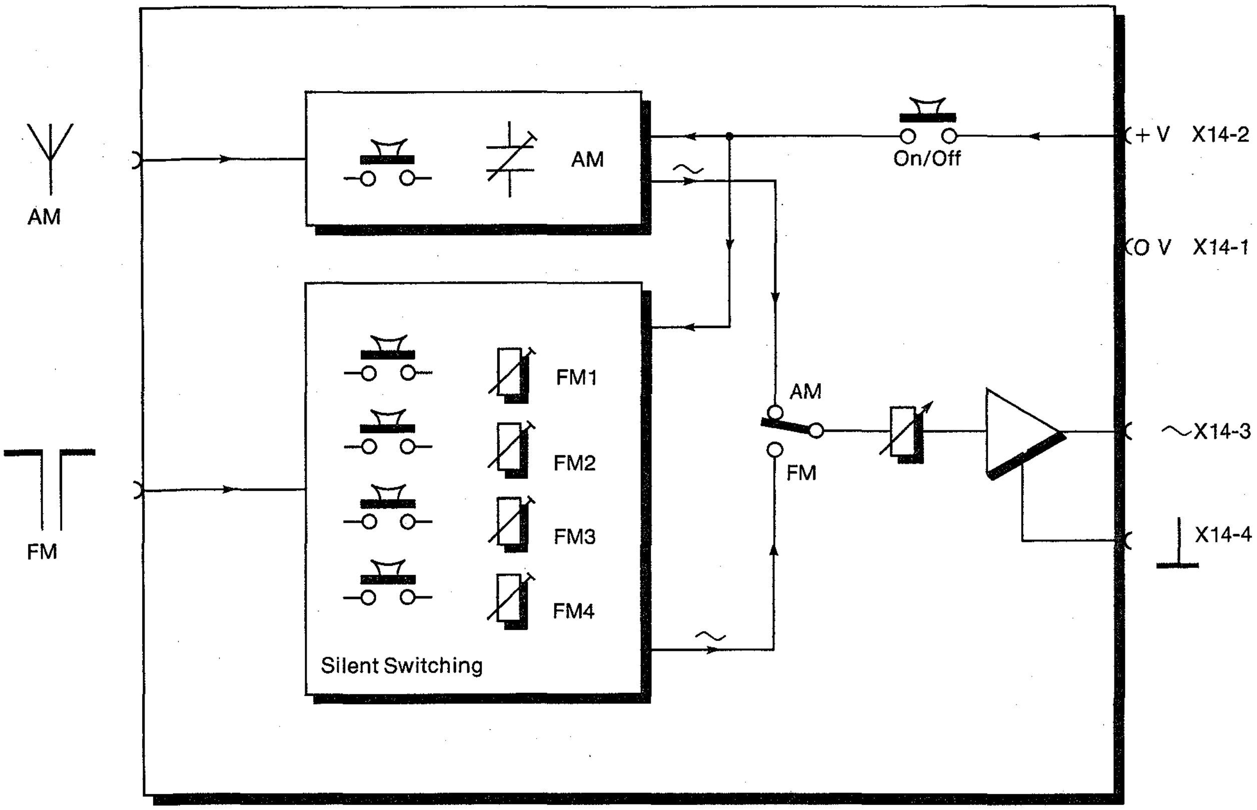
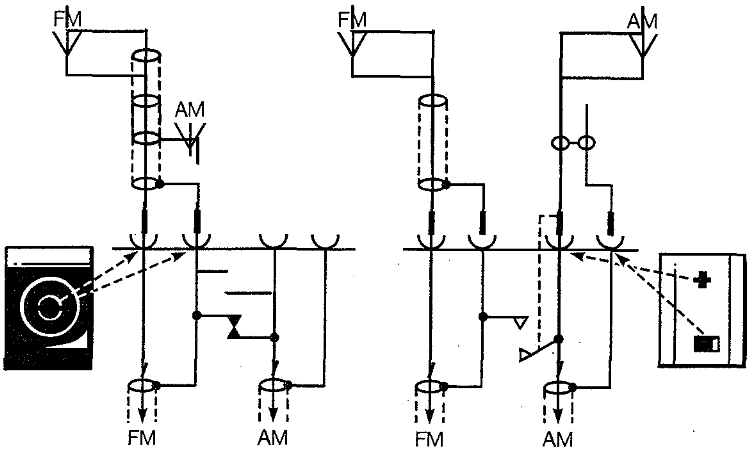


Fig. 18

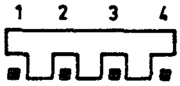
6.4 BLOCK DIAGRAM LBB 1272/02 AM/FM TUNER MODULE


AM
AM
On/Off
+V X14-2
0 V X14-1
FM1
FM2
FM3
FM4
AM
FM
~X14-3
X14-4
FM
Silent Switching

6.5 AERIAL CONNECTION DIAGRAM


FM
AM
FM
AM
FM
AM
FM
AM

6.6 CHECKLIST FOR FAULT LOCATION



Tuner module

Connector X14 on main p.c.b.

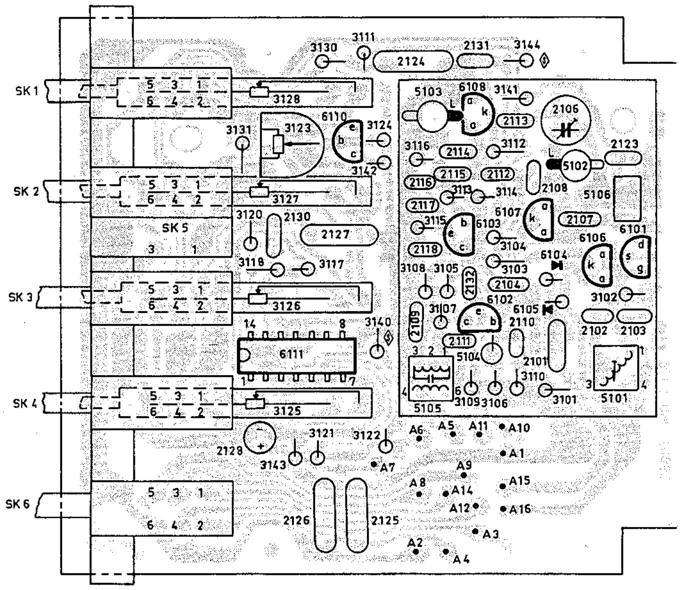
1. 0
2. +15 V nominal (non stabilised)
3. LF out 500 mV nominal
4. 0

6.7 PARTS LIST LBB 1272/02 AM/FM TUNER MODULE

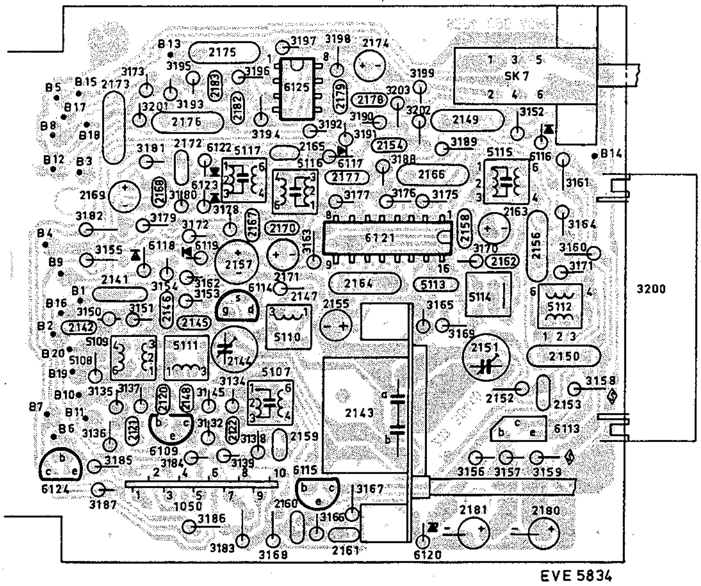
Code number	Description
5322 454 44025	Front plate
5322 105 14044	Potentiometer
5322 414 26396	Knob
4822 276 10558	Switch (on/off)
5322 414 14028	Button (green)
5322 276 54044	Switch assy
5322 414 14029	Button (yellow)
4822 395 50133	Trimming tool
4822 264 30042	AM aerial plug
4822 264 30104	FM coaxial aerial plug
5322 321 20465	Cable with C7X plug

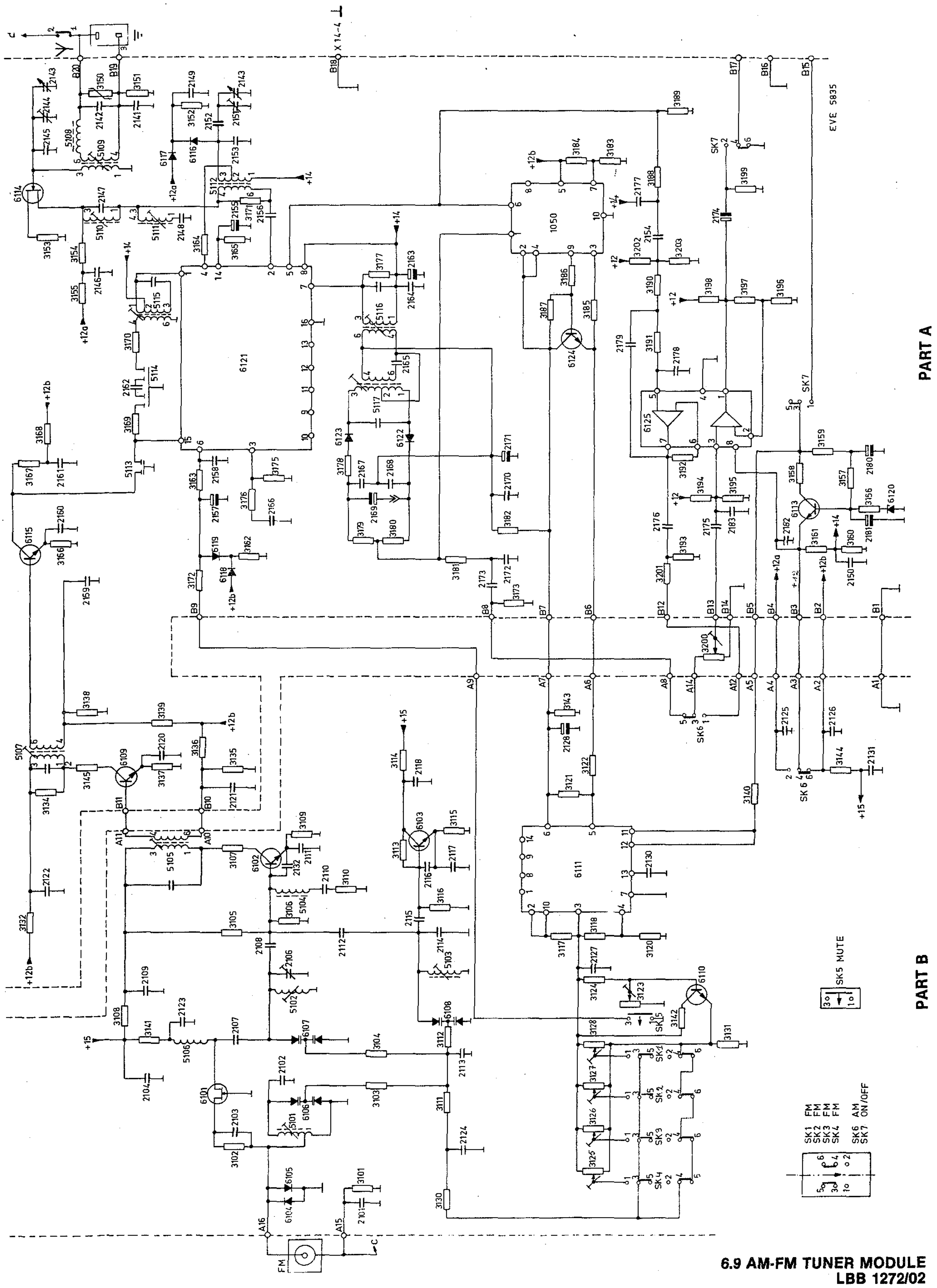
6.8 P.C.B. LAY-OUT LBB 1272/02 AM/FM TUNER MODULE

P.C.B. part A


SK 1
SK 2
SK 3
SK 4
SK 5
SK 6
3130
3111
2124
2131
3144
3128
3131
3123
6110
3124
3142
3127
3120
2130
2127
3118
3117
3126
6111
3140
3125
2128
3143
3121
3122
2126
2125
5103
6108
3141
2106
2113
3116
2114
3112
5102
2123
2116
2115
2112
2108
5106
2117
3113
3114
6107
2107
6101
3115
6103
6106
2118
3104
3108
3105
2132
3103
6104
2104
3102
2109
3107
6102
6105
2110
2102
2103
2111
5104
2101
5105
3110
3109
3106
3101
5101
A6
A5
A11
A10
A1
A7
A9
A8
A14
A15
A12
A16
A3
A2
A4

P.C.B. part B


B13
2175
3197
3198
2174
3173
3195
3196
6125
3199
SK 7
B5
B15
2173
2183
2182
2179
2178
3203
3202
3201
3193
2176
3194
3192
3190
3191
2149
3152
B17
B8
B18
3181
2172
6122
5117
2165
6117
2154
3189
B12
B3
5116
2177
3188
5115
6116
B14
2169
6123
2168
3180
3177
3176
2166
3175
3161
3182
3179
3172
3178
2167
2170
3163
6121
2158
2163
2156
3164
B4
3155
6118
6119
2157
3170
2162
3160
B9
3171
2141
3154
3162
3153
6114
2171
2164
5113
5114
5112
B1
2147
2155
3165
3200
B16
3150
3151
2146
2145
5110
3169
B2
2142
5109
5111
2144
2151
2150
B20
5108
B19
3134
5107
3158
B10
3135
3137
2120
2148
3145
2143
2152
2153
B7
B11
B6
3136
2121
3132
2122
3138
2159
6113
3185
6109
3184
3139
3156
3157
3159
6124
6115
3167
3187
1050
2160
3166
2181
2180
3186
3183
3168
2161
6120
EVE 5834


PART A
PART B
EVE 5835
X 14-4
6121
1050
6125
6111
6124
6113
6115
6109
6102
6103
6101
6110
6114
FM
SK5 MUTE
SK1 FM
SK2 FM
SK3 FM
SK4 FM
SK6 AM
SK7 ON/OFF
+12a
+12b
+14
+15

6.9 AM-FM TUNER MODULE
LBB 1272/02

Cassette player

7.1 DESCRIPTION

7.2 INSTALLATION

7.3 TECHNICAL DATA

7.4 BLOCK DIAGRAM

7.5 MAINTENANCE

7.6 CHECKLIST FOR FAULT LOCATION

7.7 PARTS LIST

7.8 P.C.B. LAY-OUT

7.9 CIRCUIT DIAGRAM

7.1 DESCRIPTION

The module LBB 1274/02 is a cassette player for compact cassettes. Incorporated is a tape reversing mechanism which automatically changes the tape direction at the end of each track and switches the playback head over to the other track. This sequence is repeated until the player is switched off. The following controls are provided on the module's front panel: volume control ①, on/off switch with built-in cat's eye tell-tale indicator ②, fast re-wind or fast wind ③ and ④ and cassette eject ⑤. The tape direction is indicated by two green L.E.D. lamps ⑥.

Operation as a music source.

On delivery, this module is ready for use as a music source and is operated in the normal manner by using the front panel controls.

The module's audio output can be adjusted by means of the slider control ① on the module's front panel. The level should be adjusted so that it is the same as the level produced by other input modules. To prevent accidental alteration of the volume control setting, the knob on the slider control can be removed.

Note:
This Philips compact cassette mechanism, like all compact cassette machines, needs regular and correct maintenance in order to ensure optimum performance.

The recommendations for the care of this machine are as follows:

- Always eject the cassette after use.
- Ensure optimum performance by cleaning the playback head after every 100 operational hours.
- Carry out a complete deck service after every 500 operational hours.

Your local Philips dealer can supply all cleaning materials and can organise a regular servicing schedule.

Operation in the standby mode.

This cassette player module can be used in a standby mode for special pre-recorded announcements or alarm messages when operated in conjunction with the chime/alarm input module LBB 1271/02 or LBB 1271/03. It is then possible, with a pre-recorded cassette in the player, to start and stop the cassette player by pushing the chime (attention signal) button on the chime/alarm input module, with the on/off button on the cassette player in the "off" position. The pre-recorded message is then preceded by the attention signal.
The volume control on the front panel, in this case, is inoperative and the module's audio output must be pre-set internally.
When this channel is activated, it has priority over all other inputs and the audio output level is not effected by the setting of the master volume control.

Remote control of standby operation.

For activation of the cassette player, for alarm or special announcements, from a remote position, consult your Philips dealer.

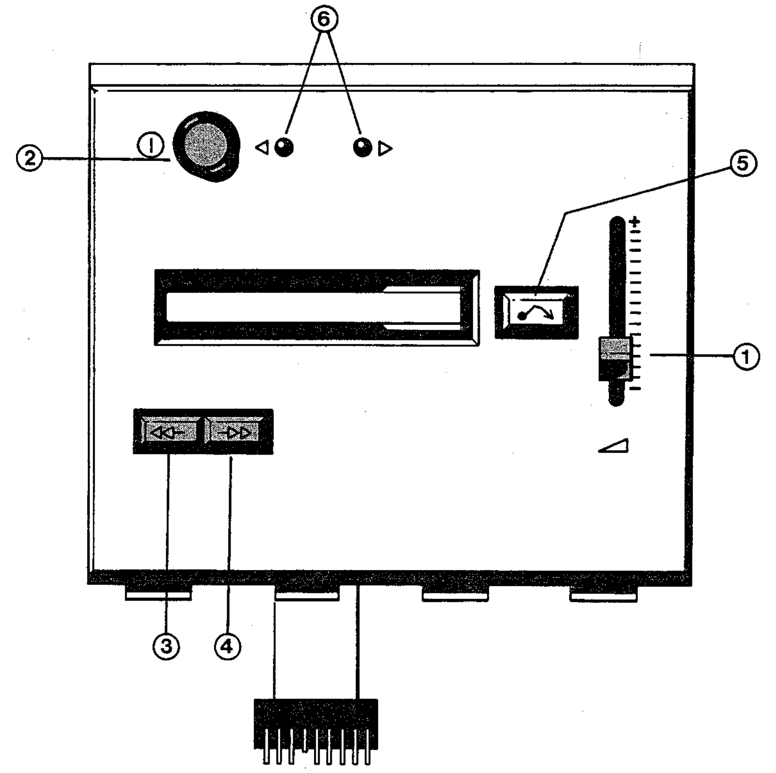


Fig. 19 LBB 1274/02

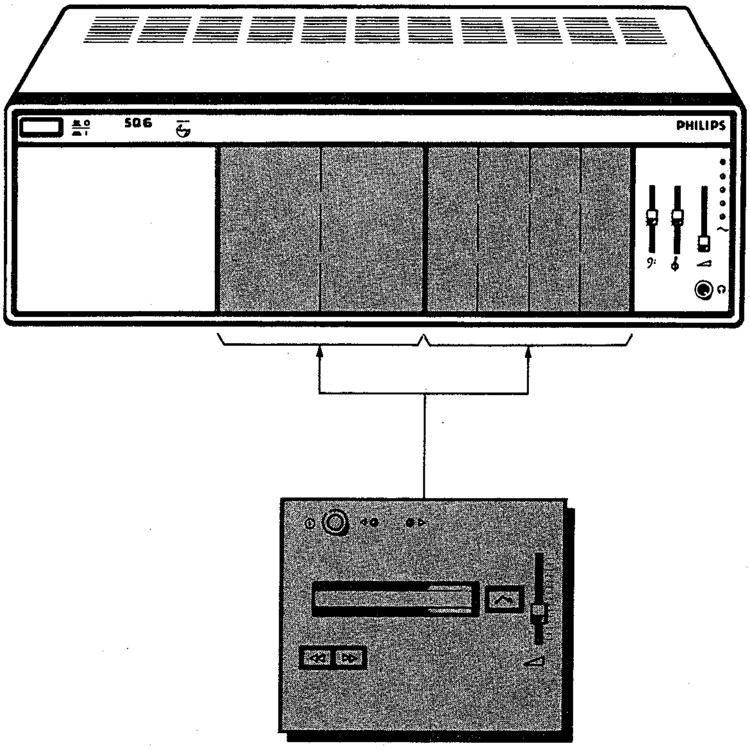


Fig. 20

Note:
The standby mode of operation implies that the cassette tape with pre-recorded messages remains in the cassette player for long periods of time. This is contrary to the normal mode of operation. Care should be taken, therefore, to ensure that the cassette tape is removed from the player at the end of each day (8 hours maximum).

In the standby mode, the operation of the cassette player should be regularly checked at the beginning of each day, especially if the tape has been left, in error, in the machine over night.

7.2 INSTALLATION

Only one autoreversible cassette player can be fitted into an SQ6 amplifier housing. This can be fitted into either of the two right-hand compartments that will accept the widest (4E) of the SQ6 modules. See Fig. 20.

The 9 pin plug on the module's ribbon cable must be inserted into the polarized 9 pole socket, X15, on the main printed circuit board of the amplifier. See Fig. 21.

(a) Music source

On delivery, the module is ready for use as a music source. Check, however, that the interconnection block is in the "**OFF**" position as shown in Fig. 22 if the module has been used previously in its other mode or if there is any doubt.

(b) Standby mode

For this mode of operation, a chime/alarm input module must also be fitted. See chapter 4.
The interconnection block shown in Fig. 22, must, in this case, be in the "**ON**" position.

Adjustments

When this cassette player is operated in the standby mode, the output signal level must be pre-set by means of a potentiometer (" **P** " in Fig. 22) on the upper printed circuit board of the module. This potentiometer adjusts the final amplifier output and is not influenced by the setting of the volume control on the module's front panel or by the system's master volume control.

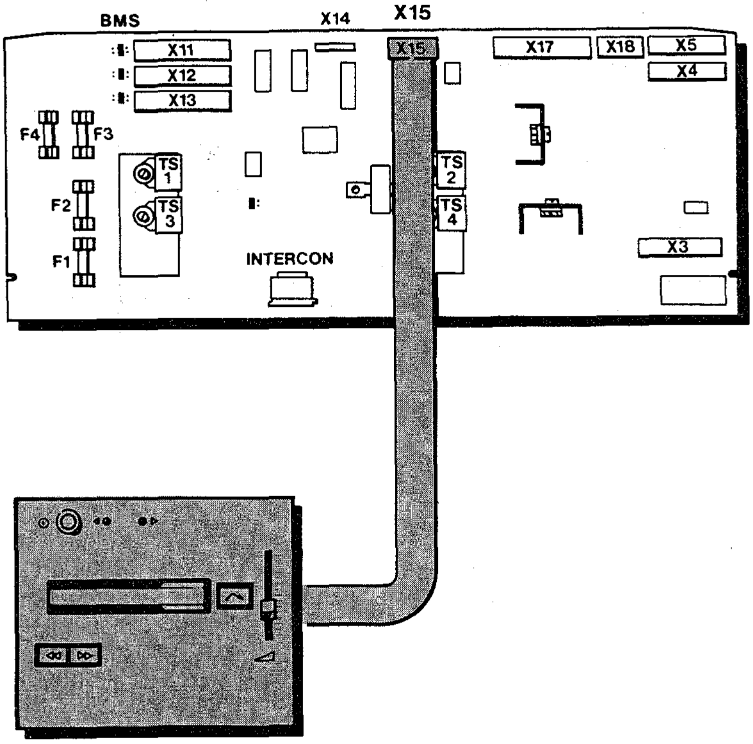


Fig. 21

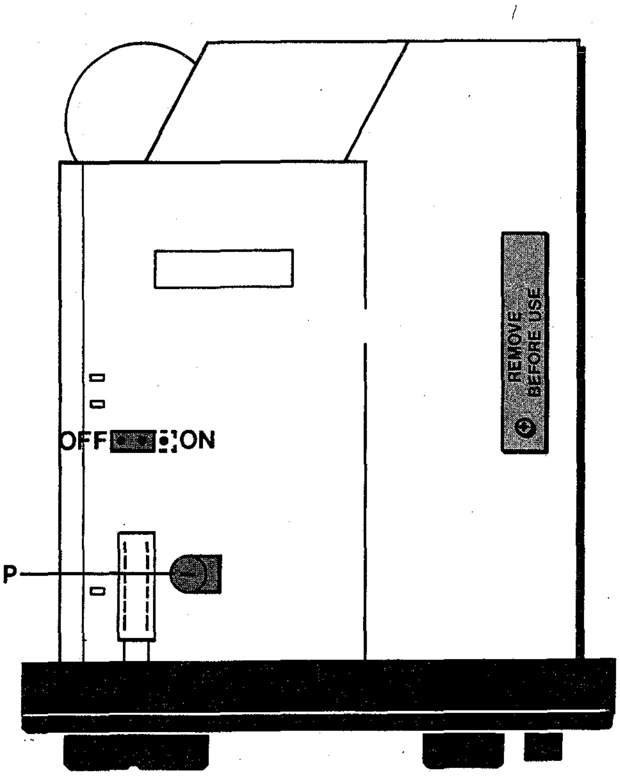
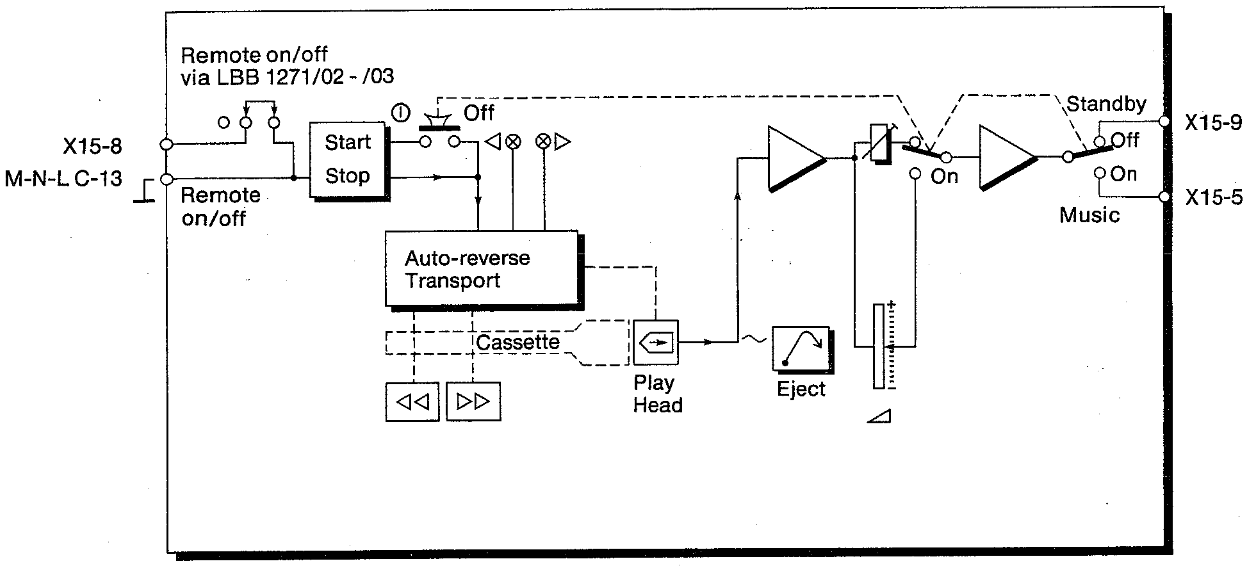


Fig. 22

7.3 Technical data

Supply	from SQ6 public address centre
Tape speed	4,76 cm/sec, +4%, —3%
Wow and Flutter at 4,76 cm/sec.	$\leqslant$ 0,4%
Fast wind/rewind (C60 cassette)	$<$70 sec.
Type of cassette	C30 - C60 - C90
Frequency response (ferro tapes)	50-10 000 Hz ± 3 dB (Fe_2O_3)
Distortion	$<$ 3%
Signal-to-noise ratio (related to nominal output of 500 mV)	$\geqslant$48 dB

7.4 BLOCK DIAGRAM LBB 1274/02 CASSETTE PLAYER


Remote on/off
via LBB 1271/02 - /03
X15-8
M-N-L C-13
Remote on/off
Start
Stop
Off
Auto-reverse
Transport
Cassette
Play
Head
Eject
On
Standby
Off
On
Music
X15-9
X15-5

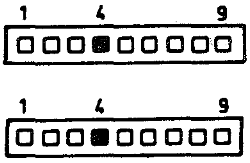
7.5 MAINTENANCE

Dust and dirt are the great enemies of magnetic tape. The use of a cleaning cassette at regular intervals is recommended to ensure optimum cassette performance. This cleaning procedure should be carried out every two weeks or after every 100 running hours. A special cleaning cassette is available under service code number 4822 389 20015.

7.6 CHECKLIST FOR FAULT LOCATION

Cassette player module

Connector X15 on main p.c.b
X1 on module p.c.b

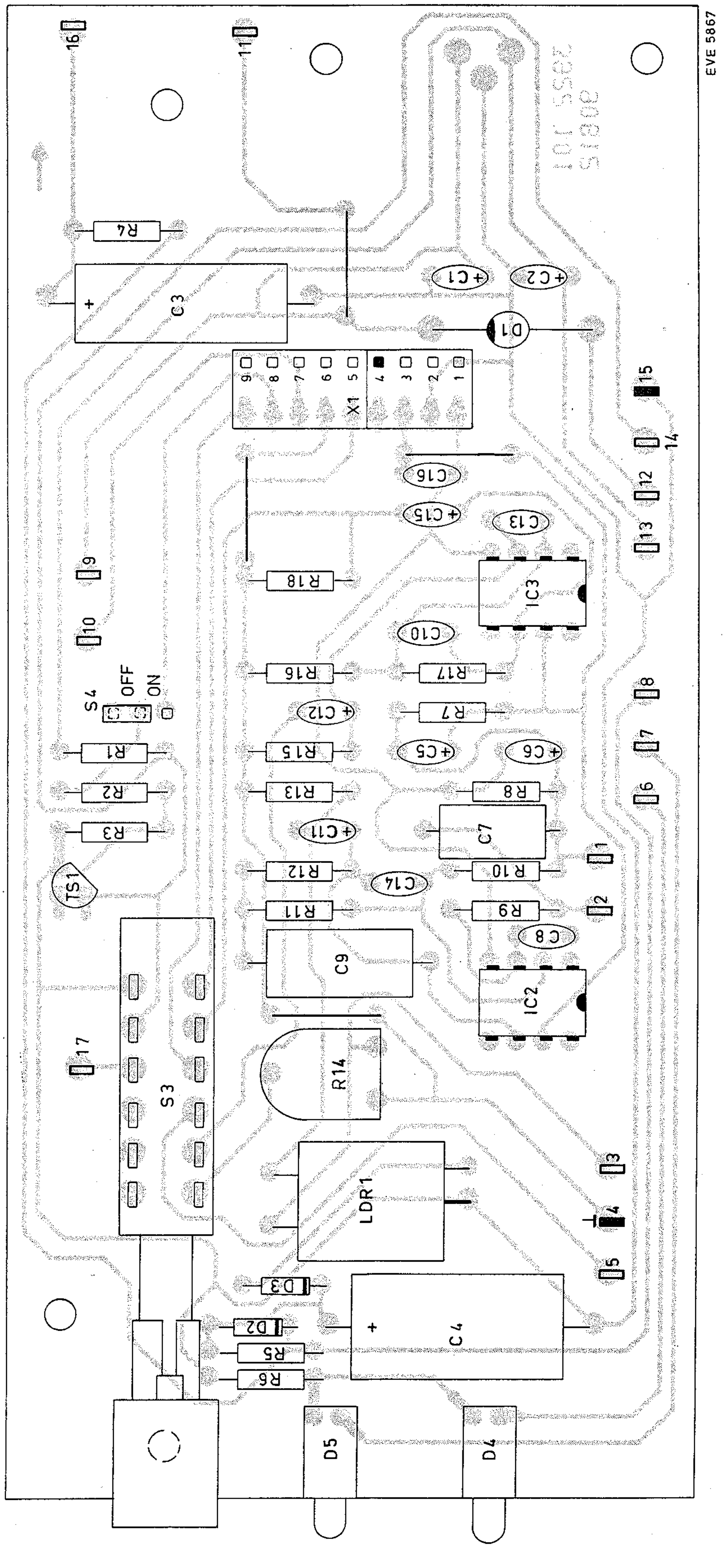


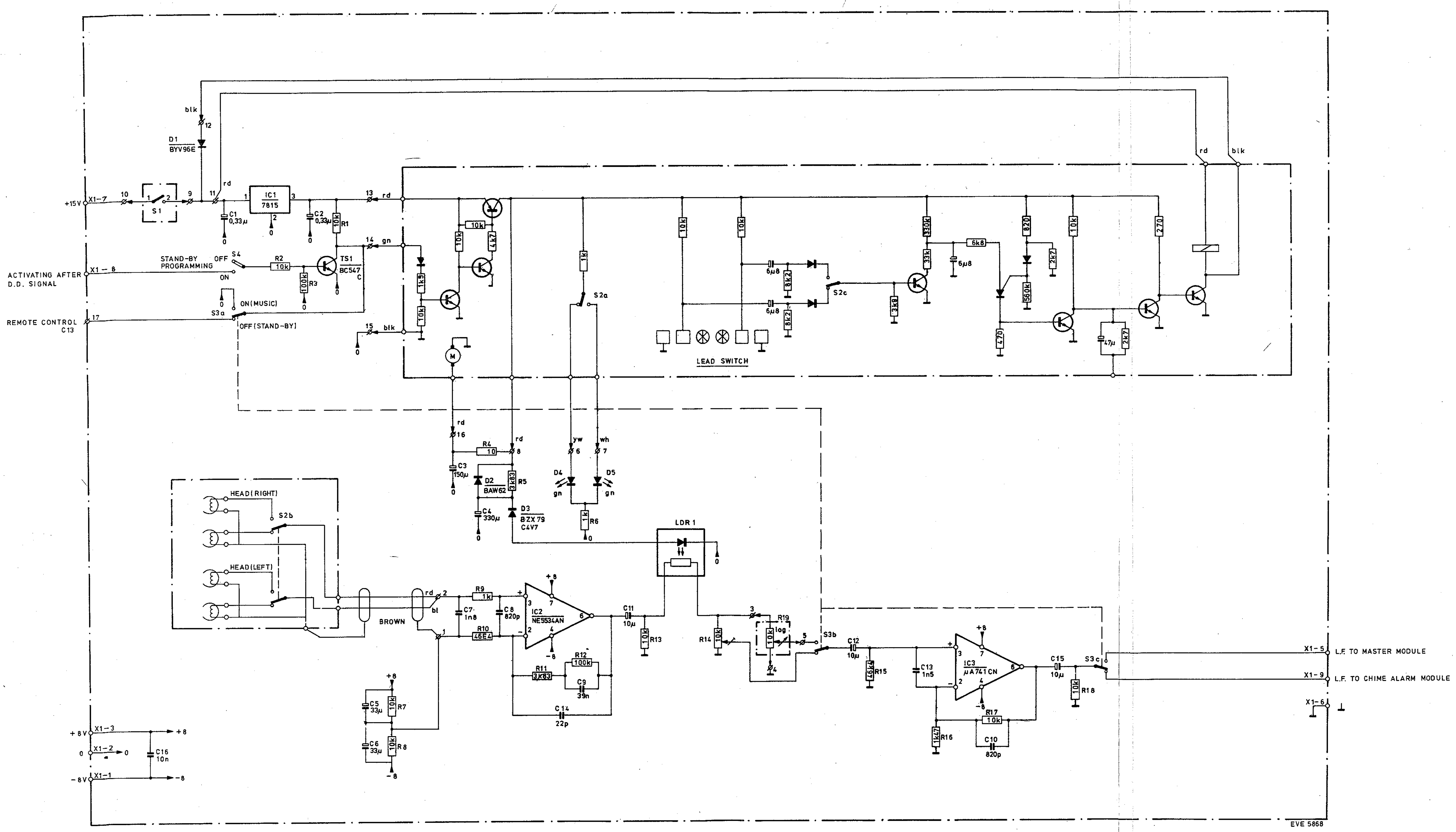
1. -8 V
2. 0
3. +8 V
4. Polarizing key
5. LF out 500 mV nominal (to master module via main p.c.b.)
6. 0
7. +15 V nominal (non stabilised)
8. Remote control from LBB 1271/02/03
9. LF out preset (to chime/alarm module via main p.c.b.)

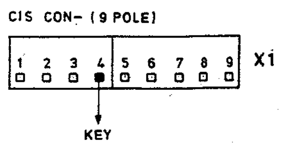
7.7 PARTS LIST LBB 1274/02 CASSETTE PLAYER MODULE

Code number	Description
5322 447 54025	Front plate assy.
5322 105 14051	Potentiometer 10 k
5322 414 26396	Knob
5322 414 14028	Button (green)
5322 130 34959	LED TLG 123A (green)
4822 389 20015	Cleaning cassette

7.8 PCB LAYOUT LBB 1274/02


EVE 5867
16
11
R4
C3
C1
C2
D1
X1
1
2
3
4
5
6
7
8
9
15
14
12
13
C16
C15
C13
IC3
R18
9
10
C10
R16
R17
S4
OFF
ON
R7
C12
R1
R15
C5
C6
R2
R13
R8
R3
C11
C7
TS1
R12
R10
C14
R11
R9
C8
C9
IC2
17
S3
R14
LDR1
D3
D2
R5
R6
C4
D5
D4


+15V
X1-7
10
S1
9
11
rd
blk
12
D1
BYV96E
IC1
7815
C1
0,33μ
C2
0,33μ
R1
10k
13
rd
14
gn
15
blk
0
ACTIVATING AFTER
D.D. SIGNAL
X1-8
STAND-BY PROGRAMMING
S4
OFF
ON
R2
10k
TS1
BC547
C
100k
R3
REMOTE CONTROL
C13
17
S3a
ON(MUSIC)
OFF(STAND-BY)
1k5
10k
4k7
M
1k
S2a
S2c
6μ8
8k2
3k9
330k
33k
6k8
820
2k7
560k
470
270
47μ
LEAD SWITCH
rd
blk
16
C3
150μ
R4
10
8
D2
BAW62
R5
3k83
C4
330μ
D3
BZX79
C4V7
yw
wh
6
7
D4
D5
gn
R6
1k
LDR1
HEAD(RIGHT)
HEAD(LEFT)
S2b
BROWN
rd
bl
2
1
R9
1k
C7
1n8
C8
820p
R10
46E4
+8
-8
IC2
NE5534AN
3
2
7
4
6
R11
3k83
R12
100k
C9
39n
C14
22p
C11
10μ
R13
10k
R7
R8
C5
33μ
C6
33μ
R14
R19
log
S3b
5
C12
10μ
R15
46k4
C13
1n5
IC3
μA741CN
R16
1k47
R17
10k
C10
820p
C15
10μ
R18
10k
S3c
X1-5
L.F. TO MASTER MODULE
X1-9
L.F. TO CHIME ALARM MODULE
X1-6
+8V
X1-3
0
X1-2
C16
10n
-8V
X1-1
EVE 5868


CIS CON- (9 POLE)
1 2 3 4 5 6 7 8 9
X1
KEY

7.9 CASSETTE PLAYER
LBB 1274/02

SQ6 Zone selector (active) 8

8.1 DESCRIPTION

8.2 INSTALLATION

8.3 TECHNICAL DATA

8.4 BLOCK DIAGRAM

8.5 CHECKLIST FOR FAULT LOCATION

8.6 P.C.B. LAY-OUT

8.7 PARTS LIST

8.8 CIRCUIT DIAGRAM

Zone selector (active)

8.1 DESCRIPTION

This module offers four possibilities for switching on and off loudspeakers in various zones by means of its electronics and built-in relays. These four possibilities which have a fixed pre-programmed cascade order of priority are as follows:

(a) Manual operation has the lowest priority.

Loudspeaker zones can be selected by means of six push button switches with built-in cat's eye tell-tale indicators. See Fig. 23. The main function for the manual operation mode is to pre-determine which zones will relay music from the built-in music sources, i.e. from the cassette player or the AM/FM tuner.

(b) Zone programming.

The combination of the four channel universal input module LBB 1274/01 and this active loudspeaker selector module makes possible the connection of any of the four inputs to any of the six outputs. This is achieved by means of four diode matrices; one matrix per input channel. By removing diodes from each matrix, a choice can be made as to which of the six zones are switched off when a particular input is activated. If a second input module LBB 1274/01 is incorporated, then eight inputs can be routed through to six outputs. In this case, however, some inputs must be in parallel.

The activation of the loudspeakers by means of programming overrides the manual setting of the zone selection switches. This means that no matter whether or not a zone is selected by means of a switch on the module's front panel, that zone will be selected when its pre-programmed input channel is activated.

(c) Remote control

When this active zone selector is used together with the SQ6 table stand microphone LBB 9053/01 it is possible to select any of six loudspeaker groups or zones by operating the appropriate switches on the microphone's table stand. An additional switch on the table stand switches on all six zones for "group call" announcements. The mutual priority of the microphones connected to the input module LBB 1274/01 is adjusted for that input module as described in chapter 4.

The priority status of this remote control switching mode is higher than that of manual operation and zone programming and in operation overrides any pre-set or pre-programmed adjustments.

(d) Alarm.

This mode of operation has the highest priority of all. When this active zone selector is used in conjunction with the chime/alarm/input module LBB 1271/02 or LBB 1271/03 and the alarm signal is generated, all loudspeaker groups are automatically switched on.

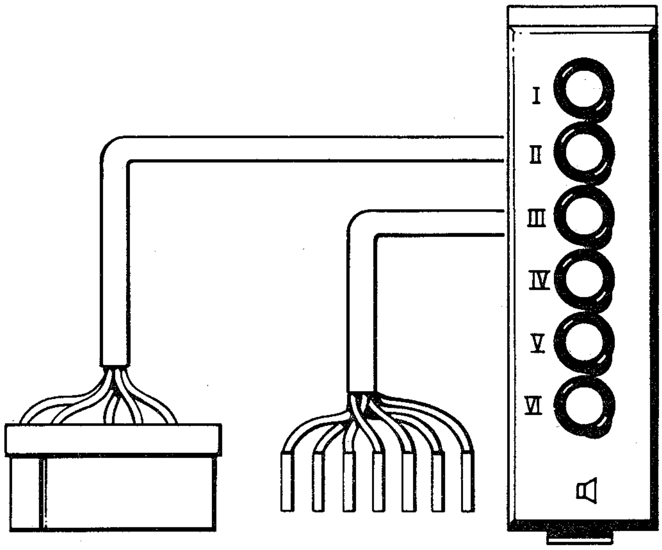


Fig. 23 LBB 1271/04

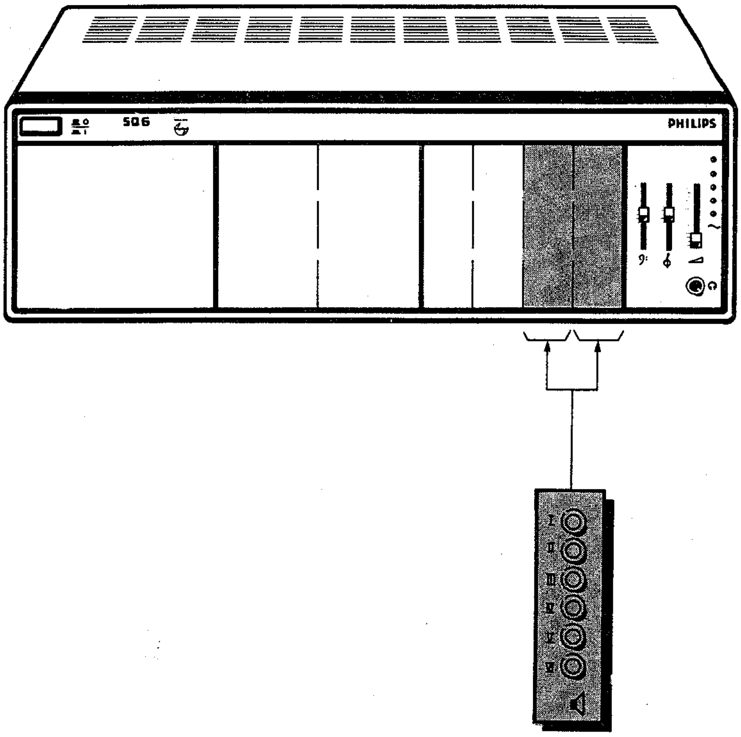


Fig. 24

Zone selector (active)

8.2 INSTALLATION

Either one or two of these active zone selectors may be fitted into an SQ6 housing.

(a) One module LBB 1271/04

When only one of these modules is fitted, the 6-pole socket on the module can be connected to either of the polarized 6-pole plugs X4 and X5 on the main p.c. board. See Fig. 25.

The other cable which has Mate-N-lok terminals must be connected to the Mate-N-lok connector (A) on the rear panel according to the tabel on the rear panel. The coloured cores of this cable are numbered according to the resistor colour code, namely:

brown — 1 — loudspeakers zone I
red — 2 — loudspeakers zone II
orange — 3 — loudspeakers zone III
yellow — 4 — loudspeakers zone IV
green — 5 — loudspeakers zone V
blue — 6 — loudspeakers zone VI
black — 12 — A (All call)

and should be inserted into the corresponding positions on the Mate-N-lok connector (A) for the six zones.

(b) Two modules LBB 1271/04

If twelve separately switchable zones are required in the system, two active loudspeaker zone selector modules may be fitted. This special application involves additional work which can be carried out by your Philips dealer.

(c) Operation via the 4 channel input module LBB 1274/01.

On delivery, this zone selector module is supplied with two four core ribbon cable assemblies terminated with 5-pole connectors. One of these cables should be used to interconnect the 4 channel input module and this zone selector module as shown in Fig. 26.

Adjustments

If certain zones are to remain off when a particular input channel is operative then the appropriate diodes in the diode matrix for each input channel on this zone selector should be removed. On delivery, all diodes are fitted and all six zones will be activated when an input channel is operated. See Fig. 27 for the relative positions of the diodes to the input channels and to the output zones.

①, ②, ③ and ④ are the groups of six diodes for respectively input channels 1, 2, 3 and 4. The numbers I-VI represent the output zones respectively I-VI. Replacement diodes should be of type BAW 62.

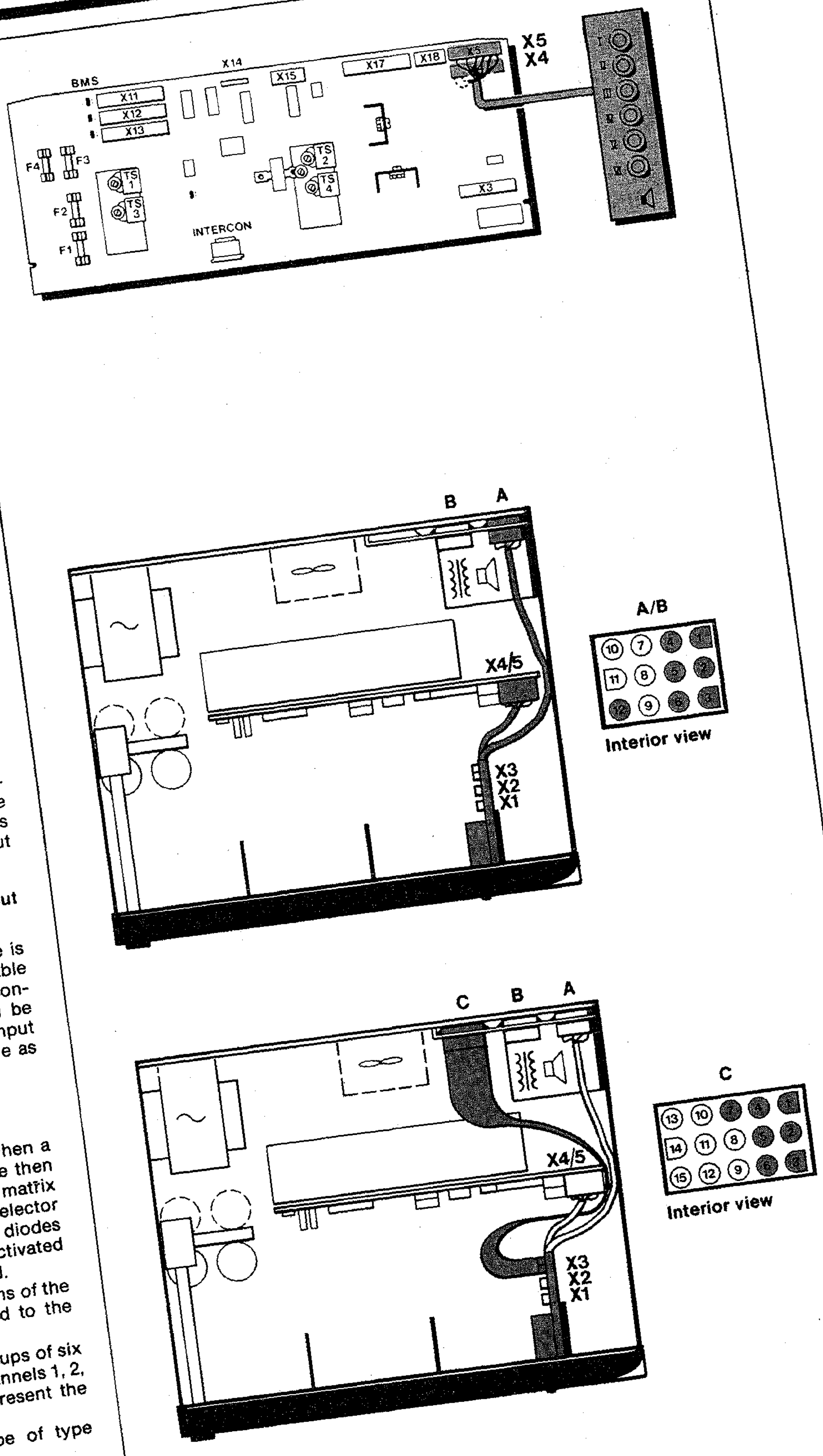


Fig. 25

(d) Operation in conjunction with 2 x 4 channel universal input modules.

This installation possibility allows any one of eight inputs to be switched through to anyone of six outputs. Both four core ribbon cables supplied with this module must be fitted as shown in Fig. 26.

Adjustments

The wire links shown in Fig. 27 Ⓐ, which are in parallel with the input diodes on the p.c. board of the selector module, must be removed.

(e) Remote control from microphone LBB 9053/01.

When the six zones are to be remotely controlled from the table stand microphone LBB 9053/01, which has zone selector switches plus a group-call switch, the cable with the 8 pole connector and Mate-N-lok terminals must be connected between the module and a remote control 15-way Mate-N-lok connector (C) on the rear panel. This 15-way connector is supplied, on delivery, with the selector module. The wiring should be according to the details given in Fig. 26 and to the information on the label on the amplifier's rear panel.

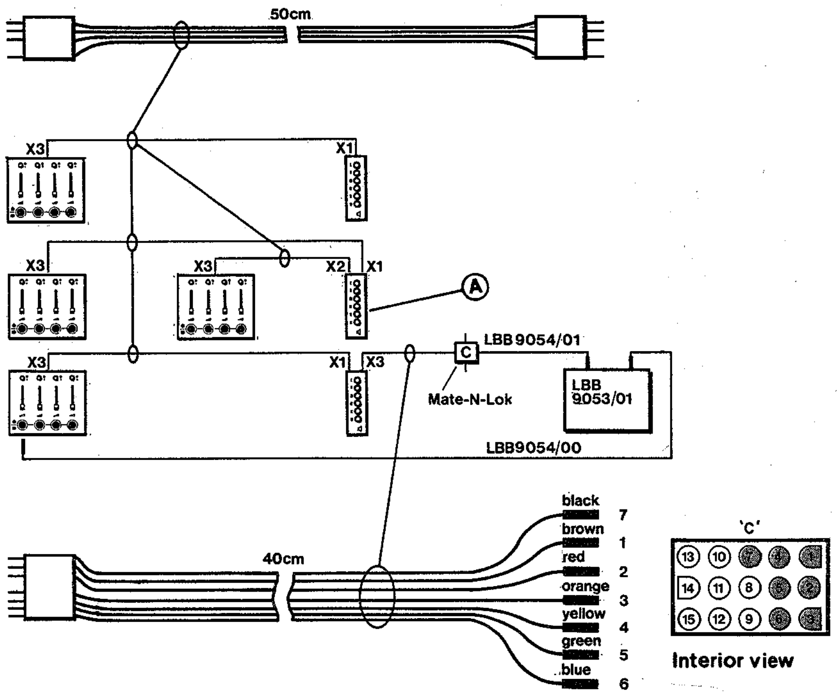

50cm
X3
X1
X3
X3
X2
X1
Ⓐ
X3
X1
X3
C
LBB 9054/01
Mate-N-Lok
LBB 9053/01
LBB9054/00
40cm
black
7
brown
1
red
2
orange
3
yellow
4
green
5
blue
6
'C'
⑬ ⑩ ④ ①
⑭ ⑪ ⑧ ⑤ ②
⑮ ⑫ ⑨ ⑥ ③
Interior view

Fig. 26

The colour code to pin configuration for this cable and the 15-way connector block 'C' is as follows:

brown — 1
red — 2
orange — 3
yellow — 4
green — 5
blue — 6
black — 7

(f) Adjustment of the audio output voltage.

The amplifier's switched output, which is routed through this module, may be set to 100, 70 or 50 V.
The tapping on the output transformer must be changed, if necessary, according to Fig. 50.

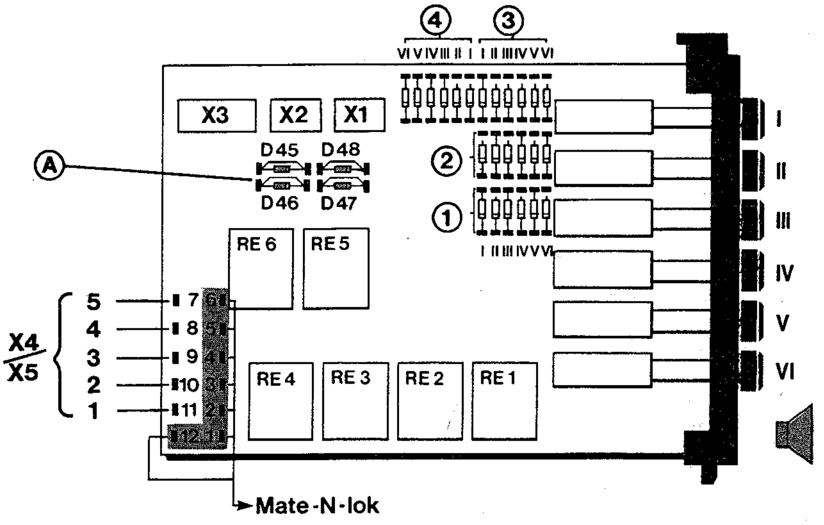
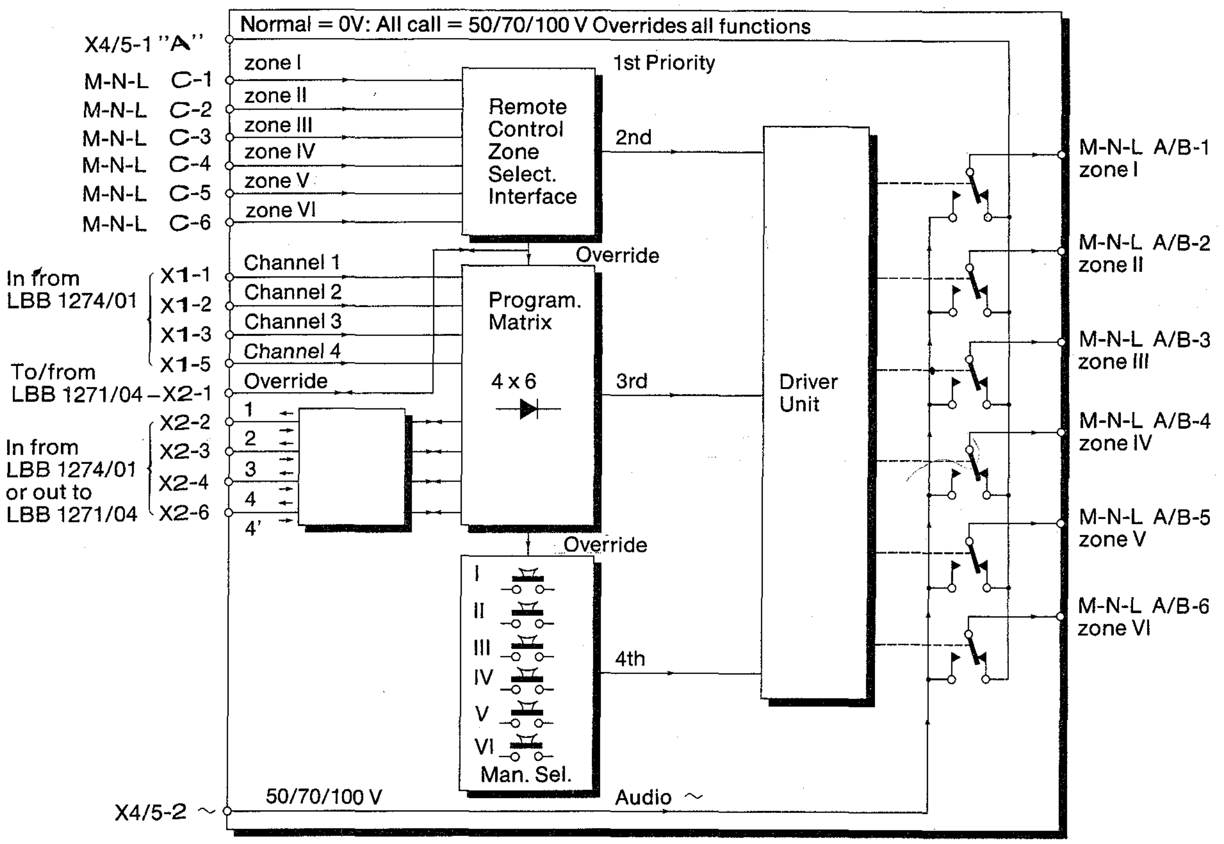

④
③
VI V IV III II I
I II III IV V VI
X3
X2
X1
Ⓐ
D45
D48
D46
D47
②
①
I II III IV V VI
RE 6
RE 5
RE 4
RE 3
RE 2
RE 1
X4
X5
5
4
3
2
1
7
8
9
10
11
12
6
5
4
3
2
1
I
II
III
IV
V
VI
Mate-N-lok

Fig. 27

8.3 TECHNICAL DATA

Dimensions (H x W x D)	:	112 x 30 x 138 mm 1E
Weight	:	250 g

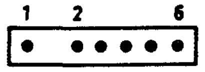
8.4 BLOCK DIAGRAM LBB 1271/04 ACTIVE ZONE SELECTOR MODULE


Normal = 0V: All call = 50/70/100 V Overrides all functions
X4/5-1 "A"
M-N-L C-1
M-N-L C-2
M-N-L C-3
M-N-L C-4
M-N-L C-5
M-N-L C-6
zone I
zone II
zone III
zone IV
zone V
zone VI
1st Priority
Remote Control Zone Select. Interface
2nd
Override
In from LBB 1274/01
X1-1
X1-2
X1-3
X1-5
To/from LBB 1271/04 – X2-1
Channel 1
Channel 2
Channel 3
Channel 4
Override
Program. Matrix
4 x 6
3rd
Driver Unit
In from LBB 1274/01 or out to LBB 1271/04
X2-2
X2-3
X2-4
X2-6
1
2
3
4
4'
Override
I
II
III
IV
V
VI
Man. Sel.
4th
X4/5-2 ~
50/70/100 V
Audio ~
M-N-L A/B-1 zone I
M-N-L A/B-2 zone II
M-N-L A/B-3 zone III
M-N-L A/B-4 zone IV
M-N-L A/B-5 zone V
M-N-L A/B-6 zone VI

8.5 CHECKLIST FOR FAULT LOCATION

Active zone selector module

- Connector X4 or X5 on main p.c.b.



1. "A" (normally 0 V; during alarm 100 V)
2. 100 V
3. -15 V nominal
4. 0
5. -8 V
6. not connected

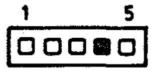
- Hand operation

  Check 100 V signal on Mate-N-Lok connector A or B points 1-6 in correspondance with pushbuttons I - VI.

- Alarm activated

  Check 100 V signal on point 12 ("A" wire) on Mate-N-Lok connector A or B.

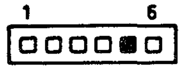
- Connector X1 on module p.c.b.



		channel off	channel on
1	channel 1	-8	+8
2	channel 2	-8	+8
3	channel 3	-8	+8
4	polarizing key		
5	channel 4	-8	+8

Control voltage from LBB 1274/01

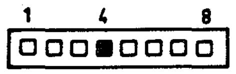
- Connector X2 on module p.c.b.



1	Remote control	priority override	
2	channel 1	-8	+8
3	channel 2	-8	+8
4	channel 3	-8	+8
5	polarizing key		
6	channel 4	-8	+8
		channel off	channel on
		Control voltage from LBB 1274/01 without short circuit links across diodes	

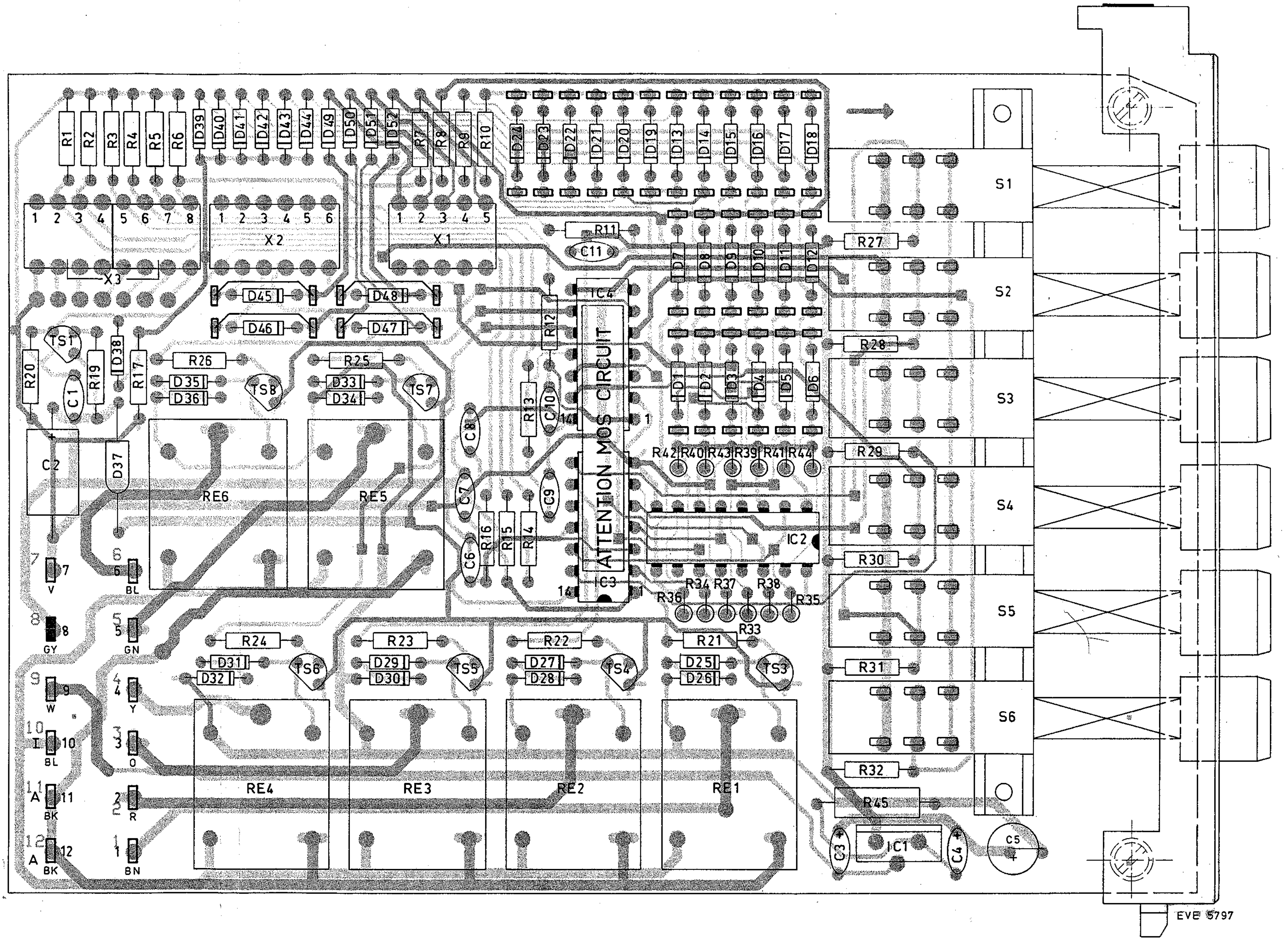
- Connector X3 on module p.c.b.

  (from Mate-N-Lok C on back of amplifier)



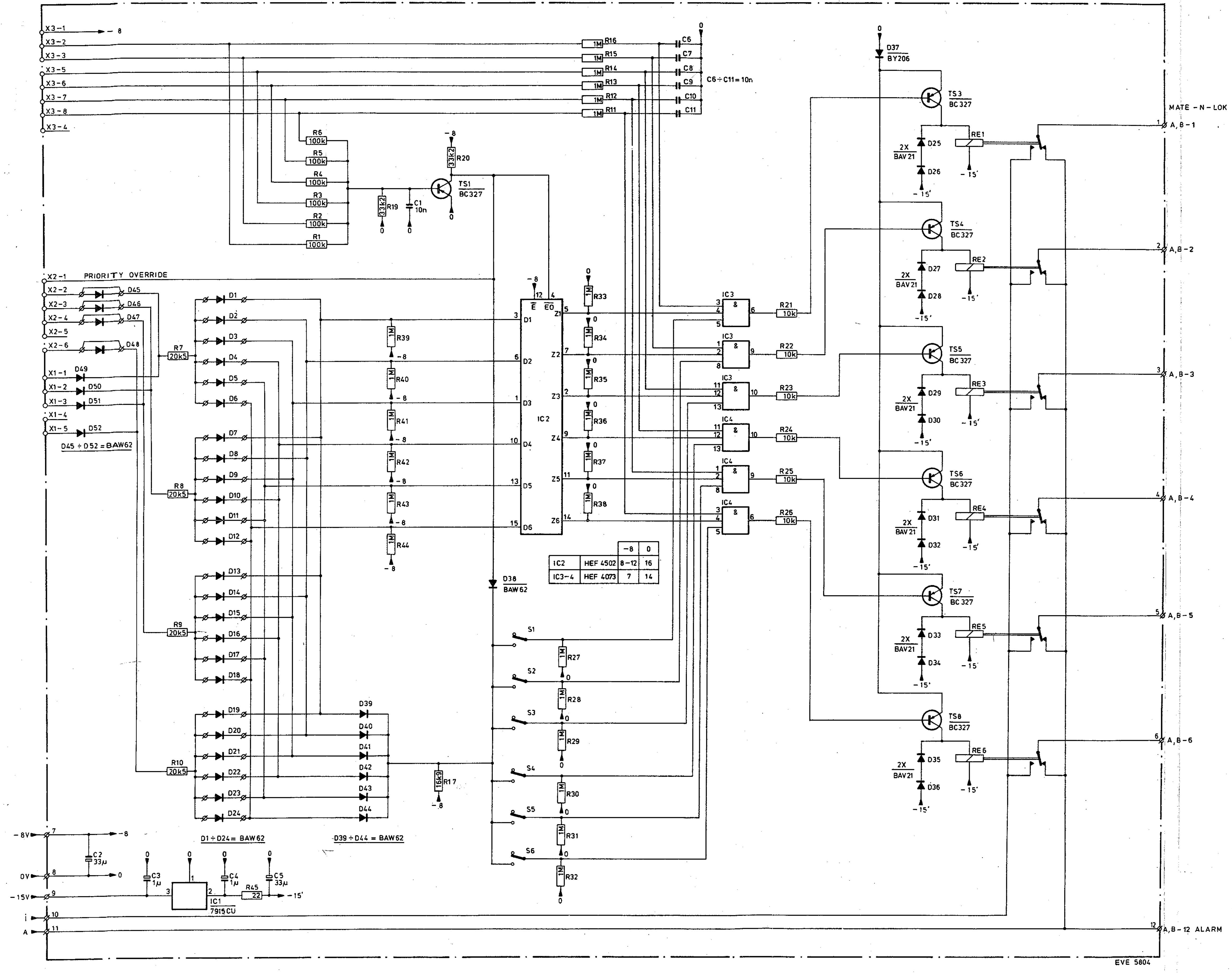
	Remote zone selection signal	off	on
1	-8 V		
2	Loudspeakers zone I	0	-8
3	Loudspeakers zone II	0	-8
4	Polarizing key		
5	Loudspeakers zone III	0	-8
6	Loudspeakers zone IV	0	-8
7	Loudspeakers zone V	0	-8
8	Loudspeakers zone VI	0	-8

8.6 P.C.B. LAY-OUT LBB 1271/04 ACTIVE ZONE SELECTOR MODULE


R1
R2
R3
R4
R5
R6
D39
D40
D41
D42
D43
D44
D49
D50
D51
D52
R7
R8
R9
R10
D24
D23
D22
D21
D20
D19
D13
D14
D15
D16
D17
D18
1 2 3 4 5 6 7 8
X3
1 2 3 4 5 6
X2
1 2 3 4 5
X1
R11
C11
D7
D8
D9
D10
D11
D12
R27
S1
S2
S3
S4
S5
S6
D45
D48
D46
D47
IC4
R12
TS1
R20
R19
D38
R17
C1
R26
D35
D36
TS8
R25
D33
D34
TS7
R28
D1
D2
D3
D4
D5
D6
R13
C10
14
1
C8
ATTENTION MOS CIRCUIT
R42
R40
R43
R39
R41
R44
R29
C2
D37
RE6
RE5
C7
C9
IC2
R30
R16
R15
R14
C6
IC3
R34
R37
R38
R36
R35
R33
7
V
6
BL
8
GY
5
GN
R24
D31
D32
TS6
R23
D29
D30
TS5
R22
D27
D28
TS4
R21
D25
D26
TS3
R31
9
W
4
Y
10
BL
3
O
11
BK
2
R
12
BK
1
BN
RE4
RE3
RE2
RE1
R32
R45
C3
IC1
C4
C5
EVE 5797

8.7 PARTS LIST LBB 1271/04 **ACTIVE** ZONE SELECTOR MODULE

Code number	Description
5322 454 44027	Front plate
5322 414 14029	Button (yellow)
5322 280 74124	Relay
5322 268 40106	AMP connector 15 pole


X3-1
X3-2
X3-3
X3-5
X3-6
X3-7
X3-8
X3-4
R16 1M
R15 1M
R14 1M
R13 1M
R12 1M
R11 1M
C6
C7
C8
C9
C10
C11
C6÷C11=10n
R6 100k
R5 100k
R4 100k
R3 100k
R2 100k
R1 100k
R19 33k2
C1 10n
R20 33k2
TS1 BC327
X2-1 PRIORITY OVERRIDE
X2-2
X2-3
X2-4
X2-5
X2-6
X1-1
X1-2
X1-3
X1-4
X1-5
D45
D46
D47
D48
D49
D50
D51
D52
D45÷D52=BAW62
R7 20k5
R8 20k5
R9 20k5
R10 20k5
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
D14
D15
D16
D17
D18
D19
D20
D21
D22
D23
D24
D39
D40
D41
D42
D43
D44
D1÷D24=BAW62
D39÷D44=BAW62
R17 16k9
R39 1M
R40 1M
R41 1M
R42 1M
R43 1M
R44 1M
IC2
E
EO
D1
D2
D3
D4
D5
D6
Z1
Z2
Z3
Z4
Z5
Z6
R33 1M
R34 1M
R35 1M
R36 1M
R37 1M
R38 1M
D38 BAW62
S1
S2
S3
S4
S5
S6
R27 1M
R28 1M
R29 1M
R30 1M
R31 1M
R32 1M
IC3
IC4
&
R21 10k
R22 10k
R23 10k
R24 10k
R25 10k
R26 10k
D37 BY206
TS3 BC327
TS4 BC327
TS5 BC327
TS6 BC327
TS7 BC327
TS8 BC327
RE1
RE2
RE3
RE4
RE5
RE6
2X BAV21
D25
D26
D27
D28
D29
D30
D31
D32
D33
D34
D35
D36
-15'
MATE-N-LOK
A,B-1
A,B-2
A,B-3
A,B-4
A,B-5
A,B-6
A,B-12 ALARM
-8V
0V
-15V
i
A
C2 33μ
C3 1μ
C4 1μ
C5 33μ
R45 22
IC1 7915CU
EVE 5804

		-8	0
IC2	HEF 4502	8-12	16
IC3-4	HEF 4073	7	14

8.8 ZONE SELECTOR (ACTIVE)
LBB 1271/04

SQ6

Zone selector (passive)

9

9.1 DESCRIPTION

9.2 INSTALLATION

9.3 TECHNICAL DATA

9.4 CIRCUIT DIAGRAM

9.5 CONNECTION DIAGRAM

9.6 PARTS LIST

9 Zone selector (passive) SQ6

9.1 DESCRIPTION

This passive zone selector consists of five front panel mounted push button switches with built-in cat's eye tell-tale indicators. The switch mechanisms are of the heavy duty type and are capable of directly switching the amplifier's power output to the loudspeakers. On delivery, the 5th switch is a "group call" switch (4 + 1). By repositioning a wire link (X in Fig. 31), the "group call" facility is removed and the module can then be used for loudspeaker switching in five separate zones.

Note:
Regardless of the setting of the switches on this module, all loudspeakers will be switched on when an alarm signal is generated.

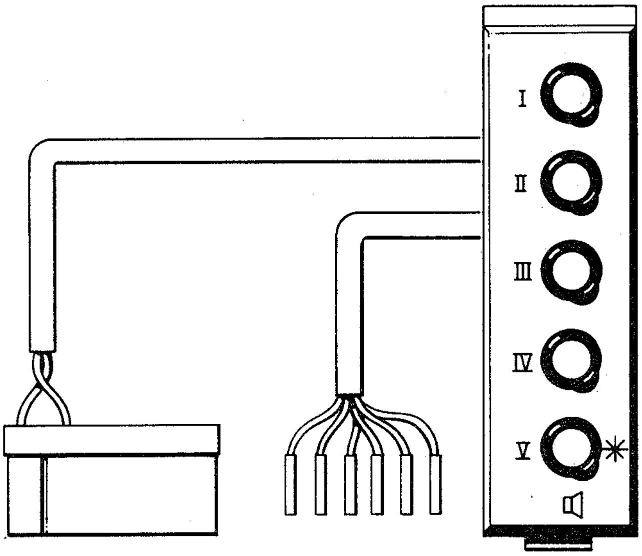


Fig. 28 LBB 1271/01

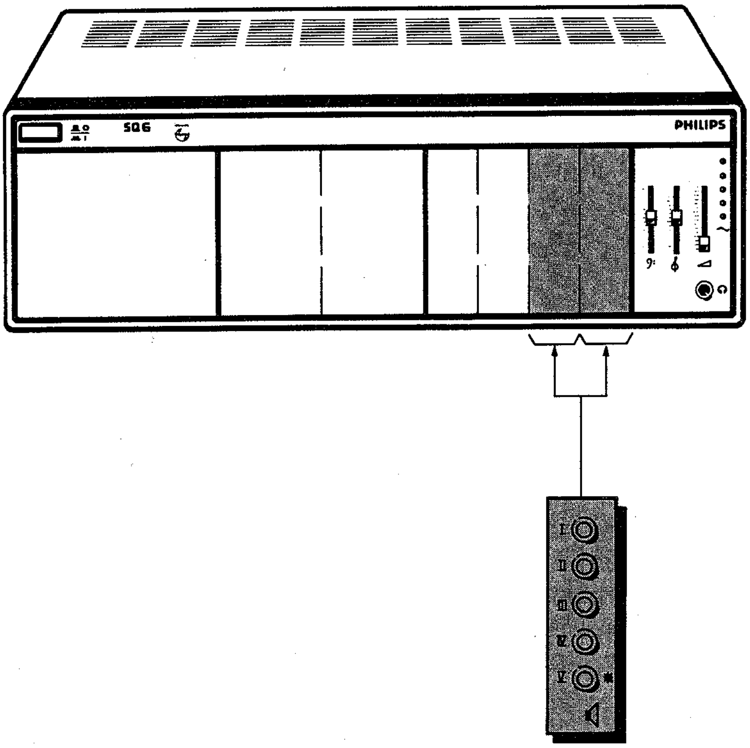


Fig. 29

9.2 INSTALLATION

Either one or two of these passive zone selectors may be fitted into an SQ6 housing. See Figs. 29 and 30. On delivery, these modules are each fitted with a 2-core cable and a 6-core cable.

(a) If only **one passive zone selector** is fitted, the 6-pole socket fitted to the 2-core cable should be connected to either plug X4 or X5 on the main p.c. board. The terminals on the 6-core cable must be inserted into the Mate-N-lok connector (A) on the rear panel according to the label on the rear panel. See Fig. 30.
The coloured cores of this cable are numbered according to the resistor colour code, namely:

brown — 1 — loudspeakers zone I
red — 2 — loudspeakers zone II
orange — 3 — loudspeakers zone III
yellow — 4 — loudspeakers zone IV
green — 5 — loudspeakers zone V
blue — 12 — A (All call)

(b) If **two passive zone selectors** are fitted then the 2-core cable with the 6-pole socket on the second module should be connected to the unused connector X4 or X5 on the main p.c. board. The 6-core cable on this second module must be connected to a second 12-way Mate-N-lok connector which must be fitted to position B on the rear panel. This 12-way Mate-N-lok connector is part of the connector set which is available under the type number LBB 1266/00.

(c) On delivery, the fifth button (V) on these passive modules is a **"group call"** button (4 + 1). If this facility is not required and control over five separate zones, instead of four, is needed, then the wire link X in Fig. 31 should be repositioned to position ①.

(d) Adjustment of the audio output voltage.
The amplifier's switched output, which is routed through this module, may be set to 100, 70 or 50 V. The tapping on the output transformer must be changed, if necessary, according to Fig. 50.

9.3 TECHNICAL DATA

Switch rating	:	4A ~ max.
Dimensions (H x W x D)	:	112 x 30 x 75 mm 1E
Weight	:	≈ 100 g

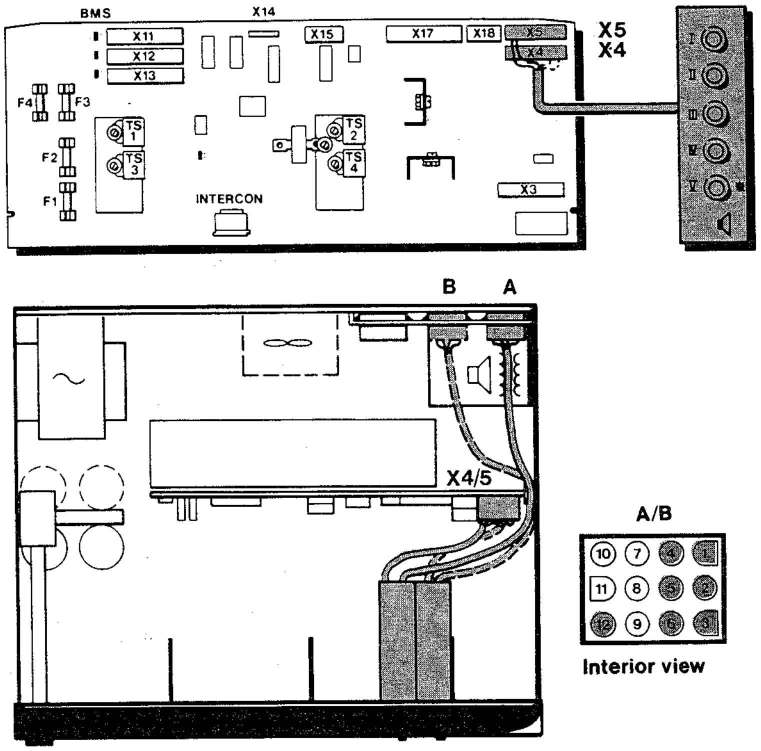


Fig. 30

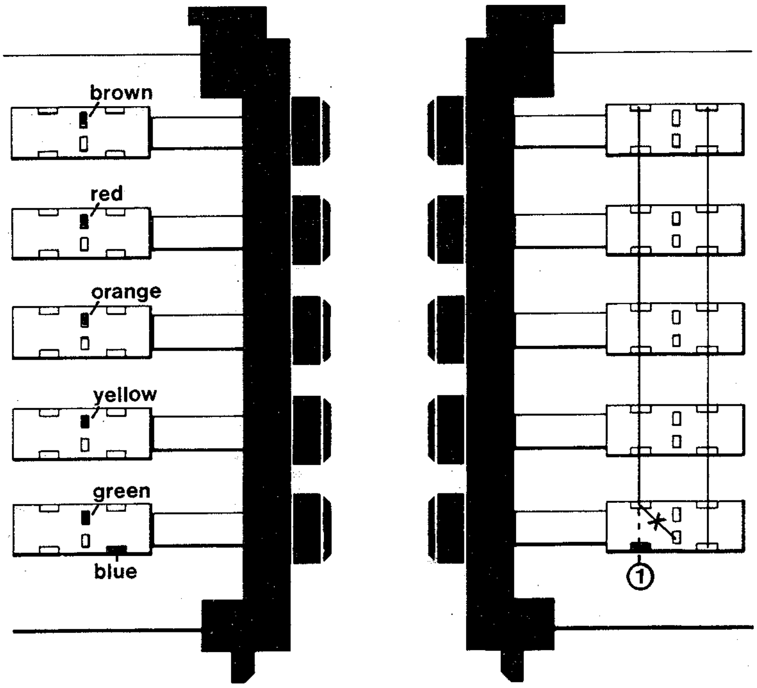
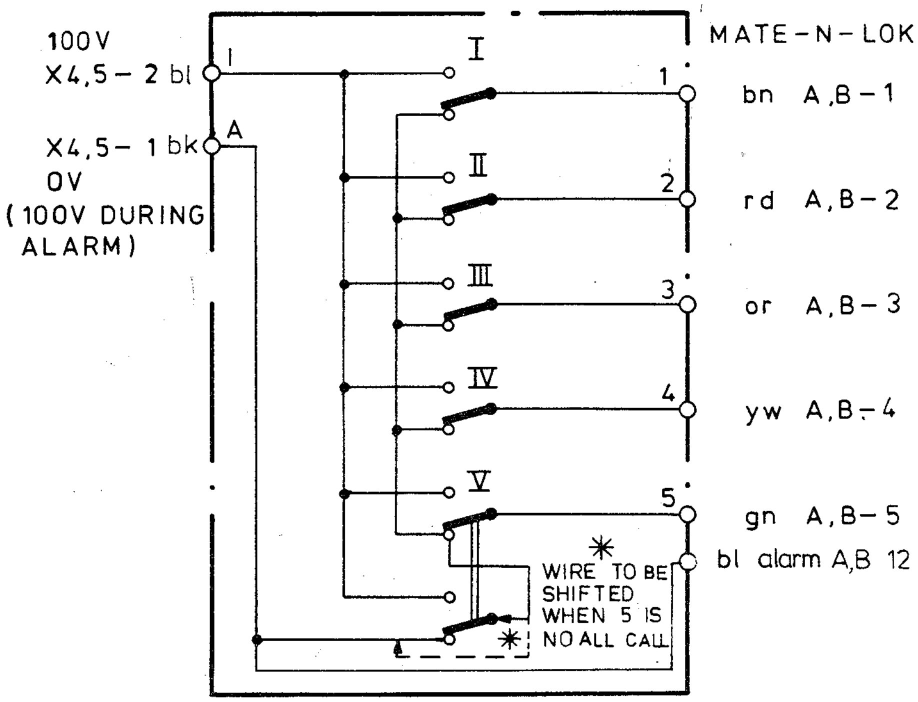


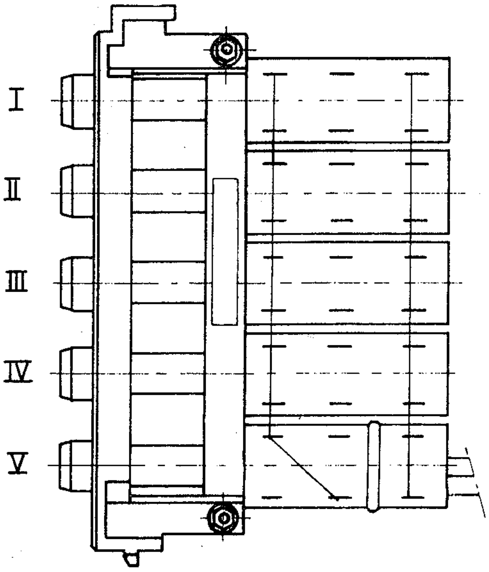
Fig. 31

9.4 CIRCUIT DIAGRAM LBB 1271/01 PASSIVE ZONE SELECTOR MODULE


100V
X4,5 - 2 bl
I
X4,5 - 1 bk
A
0V
(100V DURING ALARM)
I
II
III
IV
V
MATE-N-LOK
1
bn A,B - 1
2
rd A,B - 2
3
or A,B - 3
4
yw A,B - 4
5
gn A,B - 5
bl alarm A,B 12
*
WIRE TO BE SHIFTED WHEN 5 IS NO ALL CALL
*

EVE 5802

9.5 CONNECTION DIAGRAM LBB 1271/01 PASSIVE ZONE SELECTOR MODULE



EVE 5803

9.6 PARTS LIST LBB 1271/01 PASSIVE ZONE SELECTOR MODULE

Code number	Description
5322 454 44024	Front plate
5322 414 14029	Button (yellow)

SQ6 Accessories 10

10.1 BLANK PANELS

10.2 MATE-N-LOK CONNECTOR SET

10.3 WALL MOUNTING BOX FOR LOUDSPEAKERS

10.4 SQ6 MICROPHONE CABLE ASSEMBLY

10.5 SQ6 REMOTE CONTROL CABLE ASSEMBLY

10.6 WALL MOUNTING BOX FOR REMOTE MICROPHONE

10.7 WALL MOUNTING BOX FOR FOUR REMOTE MICROPHONES

10.8 CABLES

10.9 SQ6 TABLE STAND

10.10 PARTS LIST

10.1 Blank modules. See Fig. 32.

On delivery, all SQ6 amplifiers are supplied with the following blank modules:
1 x blank module LBB 1274/00 (4E)
2 x blank module LBB 1272/00 (2E)
4 x blank module LBB 1271/00 (1E)

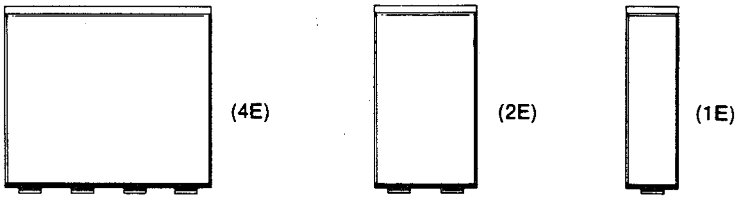


Fig. 32

10.2 Mate-N-lok connector set LBB 1266/00. See Fig. 33.

This connector set is required when more than six loudspeaker groups are needed or when any functions are to be remotely controlled.
For additional loudspeaker groups, a 12-way Mate-N-lok connector kit is provided for fitting to position "B" on the rear panel of the SQ6 housing.
This connector kit "B" comprises:
1 x panel mounting block 12-way
1 x cable mounting block 12-way
1 x cable clamp complete with screws and packing pieces.
For remote control connections, a 15-way Mate-N-lok connector kit is provided for fitting to position "C" on the rear panel of the amplifier housing.
This connector kit "C" comprises;
1 x panel mounting block 15-way,
1 x cable mounting block 15-way, and
1 x cable clamp complete with screws and packing pieces.
30 Mate-N-lok socket terminals, 30 plug terminals and a terminal ejector tool are supplied. These terminals may be either soldered or crimped onto the cable cores.

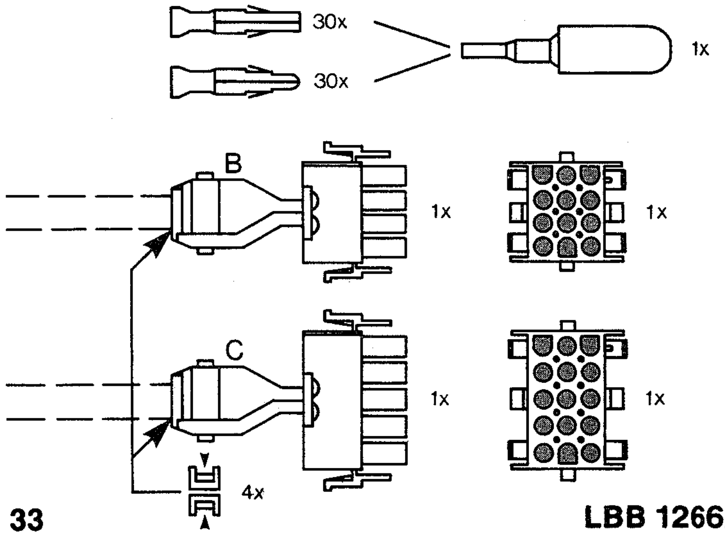


Fig. 33 LBB 1266/00

10.3 Wall mounting box for loudspeakers LBB 1265/00.

This connection box, see Fig. 34, is intended for use with connector "A" on the SQ6 housing's rear panel.
When used for connection to loudspeakers in additional zones via connector "B", note that terminals 7, 8 and 9 are reserved for the special application of operating the system from an external battery supply.
Knock-out ports for cable outlets are positioned on the sides of the box.

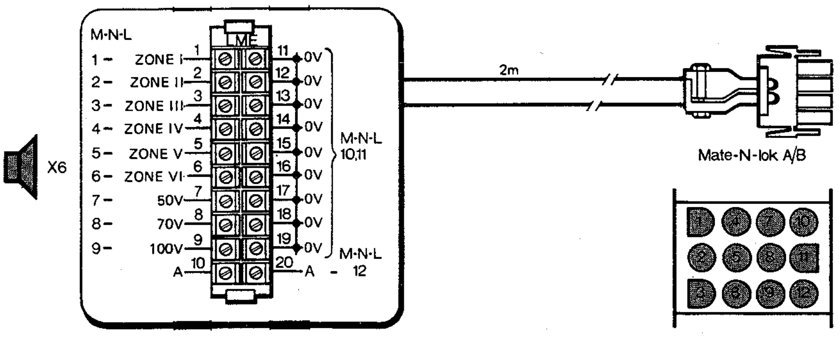


Fig. 34 LBB 1265/00

10.4 Microphone cable assembly LBB 9054/00. See Fig. 35.

This 10 m long cable terminated with a non-lockable 8-pole plug and a lockable 8-pole socket is intended for use in connecting an SQ6 microphone directly to an SQ6 universal input or indirectly via the wall mounting box LBB 1265/01. Pin 6 on the non-lockable plug is shorter than the other pins so as to prevent the attention signal being generated when this microphone cable is plugged into an SQ6 input.

The colour code to pin number relationship for this cable assembly is as follows:

8-pole 262°		8-pole 262°
1	white/red	1
2	black	2
3	red	3
4	not connected	4
5	not connected	5
6	grey	6
7	green	7
8	yellow	8

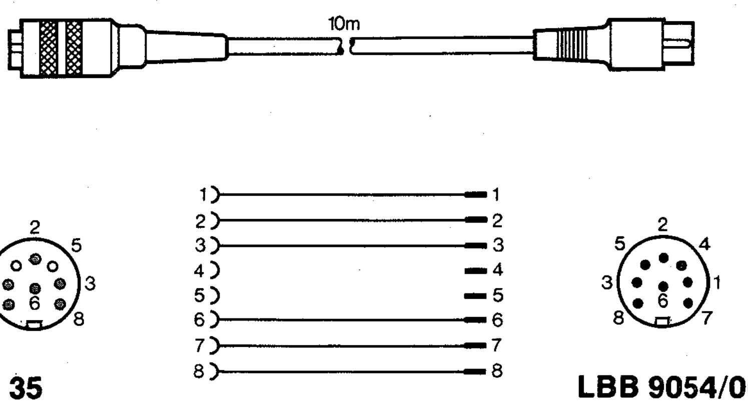


Fig. 35 LBB 9054/00

10.5 Remote control cable assembly LBB 9054/01. See Fig. 36.

This 10 m long cable terminated with a 6-pole 240° DIN plug and a 15-way Mate-N-lok connector is intended for use in connecting an SQ6 table stand microphone type LBB 9053/01 either directly to the remote control connector "C" or indirectly via a wall mounting box type LBB 1265/01.

The colour code to pin number relationship for this cable assembly is as follows:

Mate-N-lok	colour	6-pole 240° DIN
1	white/red	1
2	black	2
3	red	3
4	yellow	4
5	blue	5
6	grey	6
7-15	not connected	

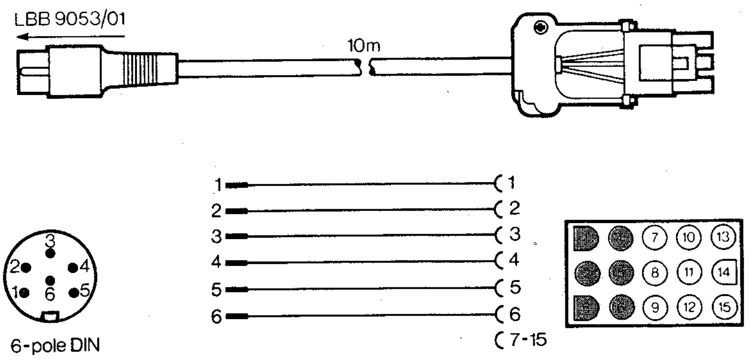

LBB 9053/01
10m
1
2
3
4
5
6
1
2
3
4
5
6
7-15
6-pole DIN
7
10
13
8
11
14
9
12
15

Fig. 36 **LBB 9054/01**

10.6 Wall mounting box LBB 1265/01.

This wall mounting box is primarily intended for use in connecting an SQ6 microphone type LBB 9053/01 with up to three other microphones, via a wall mounting box type LBB 1265/02, to an SQ6 centre. See Figs. 37, 38 and 47. Knock-out ports for cable outlets are positioned on the sides of the box.

10.7 Wall mounting box LBB 1265/02.

This wall mounting box is intended for use in connecting up to four SQ6 microphones to four separate SQ6 universal inputs. This connection box, see Fig. 38, is provided with two 2.5 m long cables for direct connection to the 16-way connector on the under-side of a 4 channel universal input module LBB 1274/01 and to the 15-way remote control socket "C" which has to be fitted on the rear side of the SQ6 housing. Knock-out ports for cable outlets are positioned on the sides of the box.

For the connection of this box to the wall mounting box type LBB 1265/01, see Fig. 47.

A suitable cable for making these interconnections is the 16-core cable which is available under the order numer 3924 047 00602. ("a" in Fig. 47).

If no remote control connections are required, for example when connecting microphones type LBB 9051/00, LBB 9052/00 and LBB 9053/00 or a dynamic microphone via the line amplifier LBB 9055/00, a suitable cable is the 7-core cable ("b" in Fig. 47) which is available under the order number 0722 276 02001.

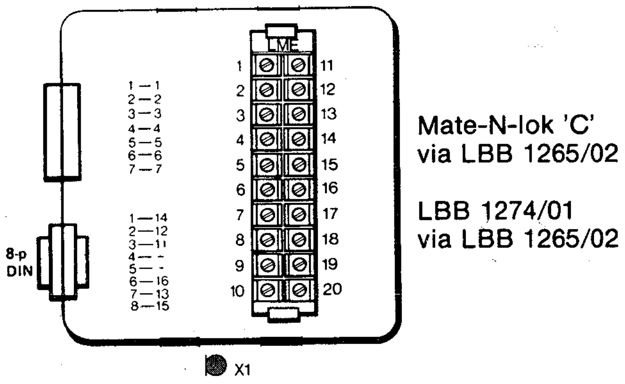

LME
1—1
2—2
3—3
4—4
5—5
6—6
7—7
1—14
2—12
3—11
4— -
5— -
6—16
7—13
8—15
8-p DIN
1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
X1
Mate-N-lok 'C'
via LBB 1265/02
LBB 1274/01
via LBB 1265/02

Fig. 37 **LBB 1265/01**

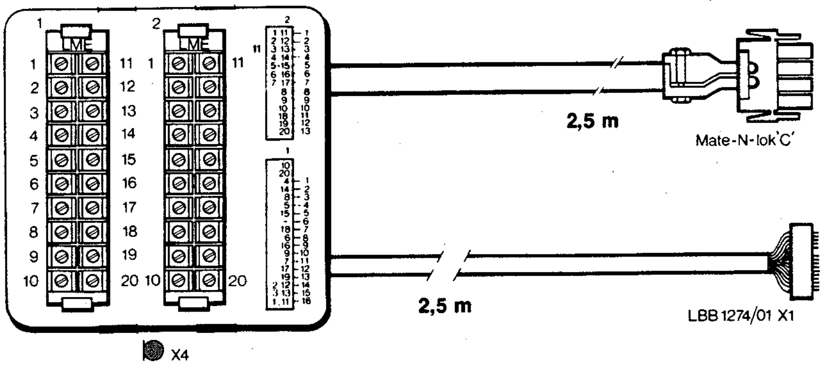

1
2
LME
LME
1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
2,5 m
Mate-N-lok'C'
2,5 m
LBB 1274/01 X1
X4

Fig. 38 **LBB 1265/02**

10.8 Cables

(a) 16-core cable:
code number 3924 047 00602,
See Fig. 39.

When using the 16-core cable to interconnect the boxes type LBB 1265/01 and LBB 1265/02, it is recommended that the twisted pairs are used for the following functions;

Pair 1
white = not used
brown = not used
Pair 2
green = + 8 V
yellow = —8 V
Pair 3
grey = CALL (SW/LED)
pink = not used
Pair 4
blue = ~) Balanced
red = ~) audio
Pair 5
black = 0 V power supply
violet = 0 remote control
Pair 6
grey/pink = rem. contr. lsp. z. I (remote control loudsp. zone I)
blue/red = rem. contr. lsp. z. II
Pair 7
white/green = rem. contr. lsp. z. III
brown/green = rem. contr. lsp. z. IV
Pair 8
white/yellow = rem. contr. lsp. z. V
brown/yellow = rem. contr. lsp. z. VI

Note:
An alternative cable is the 20-core cable, code no. 0722 243 09001.

(b) 7-core cable:
code number 0722 276 02001
See Fig. 39

When using the 7-core cable, it is recommended that the same colour coding is used as shown in section 10.4 for the cable assembly LBB 9054/00, i.e.

white/red = ~) Balanced
red = ~) audio
grey = CALL (SW/LED)
green = + 8 V
black = 0 V
yellow = —8 V
blue = not used

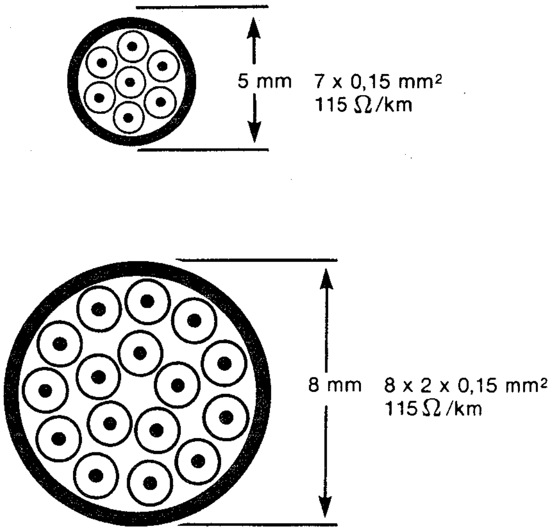


Fig. 39

10.9 SQ6 Table stand LBC 1232/00

This empty SQ6 table stand is intended for use with the SQ6 handmicrophone LBB 9051/00. The 3/8" diameter Whitworth screw fitting is suitable for the hand microphone's holder and can also accept the screw fitting of the swan-necked microphone LBB 9052/00.

Two 7-pole connectors are fitted to the rear of the unit and are provided to give connection points to any custom built circuits which may be built into the table stand.

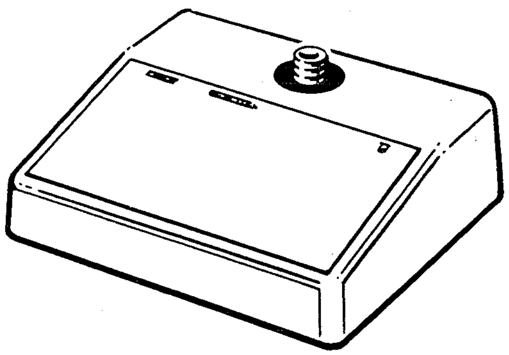


Fig. 40 **LBC 1232/00**

10.10 PARTS LIST

Code number	Description
LBB 1266/00:	
5322 265 44112	AMP connector 12 pole
5322 265 44111	AMP plug 12 pole
5322 268 40106	AMP connector 15 pole
5322 268 40105	AMP plug 15 pole
5322 290 44043	Cable clamp assembly for AMP plug
5322 290 44042	AMP contact (male)
5322 268 14154	AMP contact (female)
5322 395 94064	Ejector tool
LBB 9054/00:	
5322 264 71002	Plug 8-p 262° (male)
5322 266 40085	Plug 8-p 262° (female)
LBB 9054/01:	
5322 264 40011	Plug 6-p 240° (male)
5322 268 40105	AMP plug 15 pole
5322 290 44043	Cable clamp assembly for AMP plug.
LBC 1232/00:	
5322 264 54011	Plug 7-p 360°

Microphones

11.1 DESCRIPTION

11.2 CONNECTION AND INSTALLATION DIAGRAMS

11.3 TECHNICAL DATA

11.4 BLOCK DIAGRAMS

11.5 CHECKLIST FOR FAULT LOCATION

11.6 PARTS LIST

11.7 P.C.B. LAY-OUTS

11.8 CIRCUIT DIAGRAMS
    11.8.1 LBB 9051/00, LBB 9052/00, LBB 9053/00, LBB 9055/00
    11.8.2 LBB 9053/01.

11.1 DESCRIPTION

The SQ6 range of electret condenser cardioid microphones, although primarily intended for use in SQ6 systems, may also be used in systems with 600 Ohm lines. Their balanced line level outputs allow them to be located up to a kilometre away from the SQ6 public address centre employing unscreened cable for the connection. Power, for the microphone line amplifiers, which are located together with the microphone heads, is supplied from the SQ6 public address centre.
In order to cope with a high dynamic range, these line amplifiers are provided with a limiter which makes pre-set adjustments in the amplifier superfluous. These features mean that the SQ6 microphones may be connected, with no problems, directly to the SQ6 amplifier inputs.

A "request to speak" (call) switch plus an LED indicator is provided on each SQ6 microphone assembly. This indicator which operates in parallel with an indicator on the corresponding input channel on the SQ6 amplifier, shows whether or not the microphone can be used. If these indicators remain off or go off (alarm) or flash rapidly (chime) or slowly (blocked), the input channel may not be used. Only when the indicator stays on is the microphone active.

(a) Hand microphone LBB 9051/00
See Fig. 41

This microphone is supplied with a holder which can be used for floor stand, table stand or wall mounting. The holder is provided with a threaded bush which allows the holder to be used with standard 3/8", 1/2" or 5/8" screw fittings.
A cable assembly type LBB 9054/00, which is 10 m long should be ordered for use with this microphone.

(b) Line amplifier unit LBB 9055/00

This line amplifier unit is primarily intended to be used for connecting normal dynamic P.A. microphones to an SQ6 amplifier input. A 7-pole 270° DIN socket is provided, which will also accept 5-pole or 3-pole 180° DIN plugs, for connection to standard microphone cables. An 8-pole DIN plug is also provided for connection to an SQ6 amplifier input.

A cable assembly, type LBB 9054/00 (10 m long) should be ordered for use with this line amplifier unit.

A clamp, provided with this unit, can be used for either horizontal or vertical mounting on either flat surfaces or on the side of a floor stand. See Fig. 42.

(c) Swan-necked microphone LBB 9052/00. See Fig. 43.

This microphone assembly consists of a microphone head plus swan-neck, a stand adapter unit (with a microphone button, LED indicator lamp and a 1,5 m long cable with 7-pole 270° DIN plug) and a line amplifier plus clamp.
The clamp can be used for either horizontal or vertical mounting on either flat surfaces or on the side of a floor stand.
A cable assembly, type LBB 9054/00, which is 10 m long, should be ordered for use with this microphone.

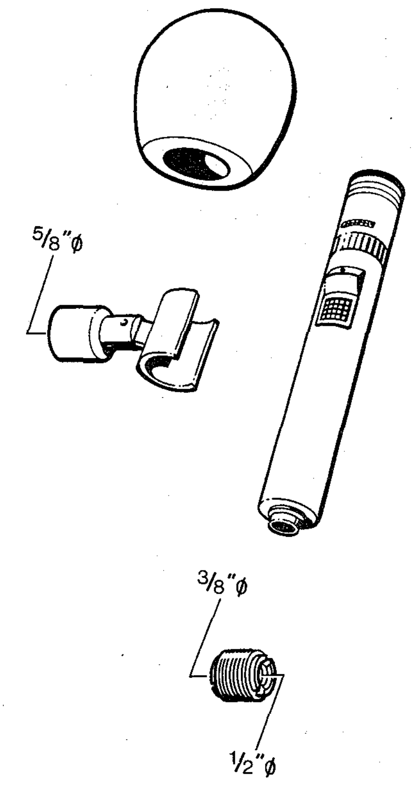


Fig. 41 LBB 9051/00

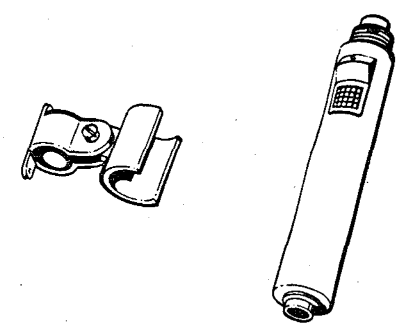


Fig. 42 LBB 9055/00

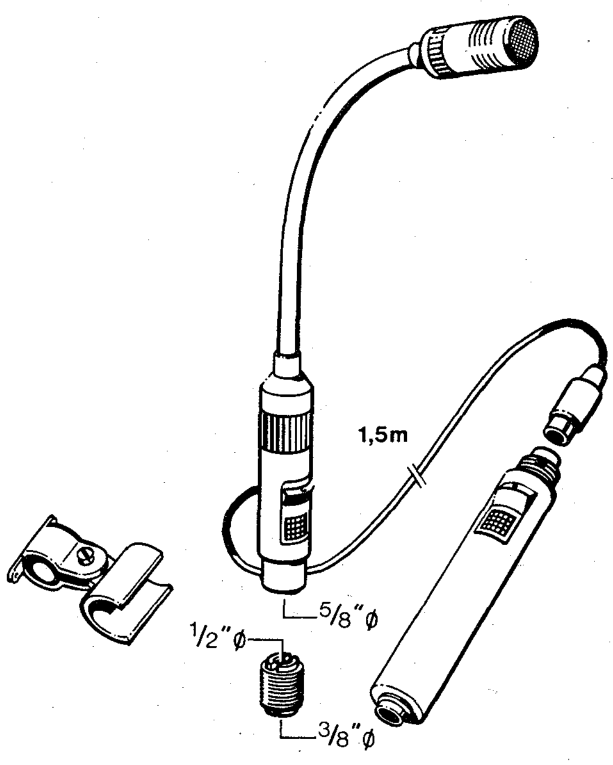


Fig. 43 LBB 9052/00

(d) Swan-necked microphone on table stand LBB 9053/00

This microphone consist of an SQ6 table stand with a swan-necked microphone (See Fig. 44). On the table stand's front panel is a microphone switch and an LED indicator lamp. An 8-pole DIN plug is fitted to the rear panel for connections to an SQ6 amplifier input via cable assembly LBB 9054/00 which must be ordered separately.

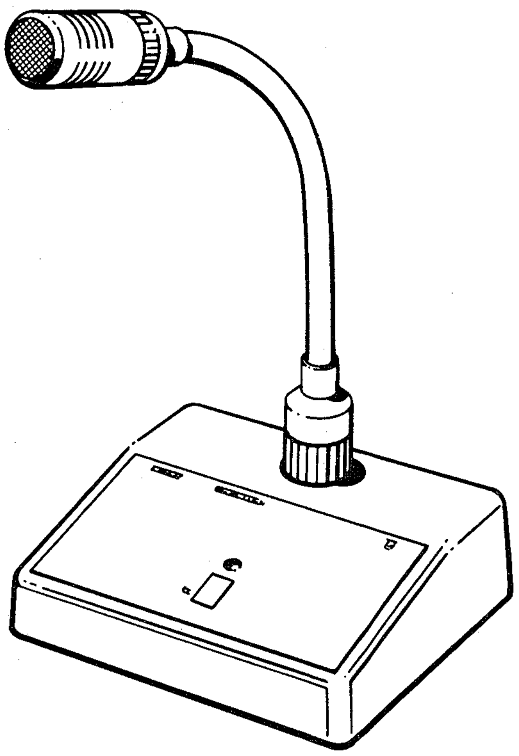


Fig. 44 **LBB 9053/00**

(e) Swan-necked microphones on table stand with zone selectors LBB 9053/01

This microphone consists of an SQ6 table stand with a swan-necked microphone (See Fig. 45). In addition to the microphone switch and LED indicator lamp are seven switches, six for switching on or off loudspeakers in six separate zones and the seventh for switching on all loudspeakers in that group of six zones at the same time, i.e. "group call".

Note: The loudspeakers in these zones are active only when the microphone is on. Two connectors are provided on the rear panel, namely, a 6-pole 240° DIN socket and an 8-pole 262° plug. Two cables must be ordered for use with this microphone:

- Cable assembly, type LBB 9054/00 (10 m long) for connection from the 8-pole plug to an SQ6 amplifier input.
- Cable assembly, type LBB 9054/01 (10 m long) for direct connection from the 6-pole DIN socket to the remote control connector (C) on the amplifier's rear panel.

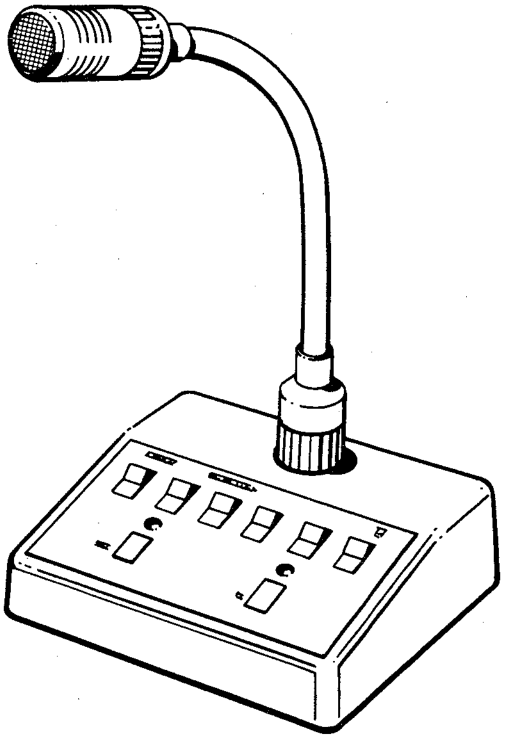


Fig. 45 **LBB 9053/01**

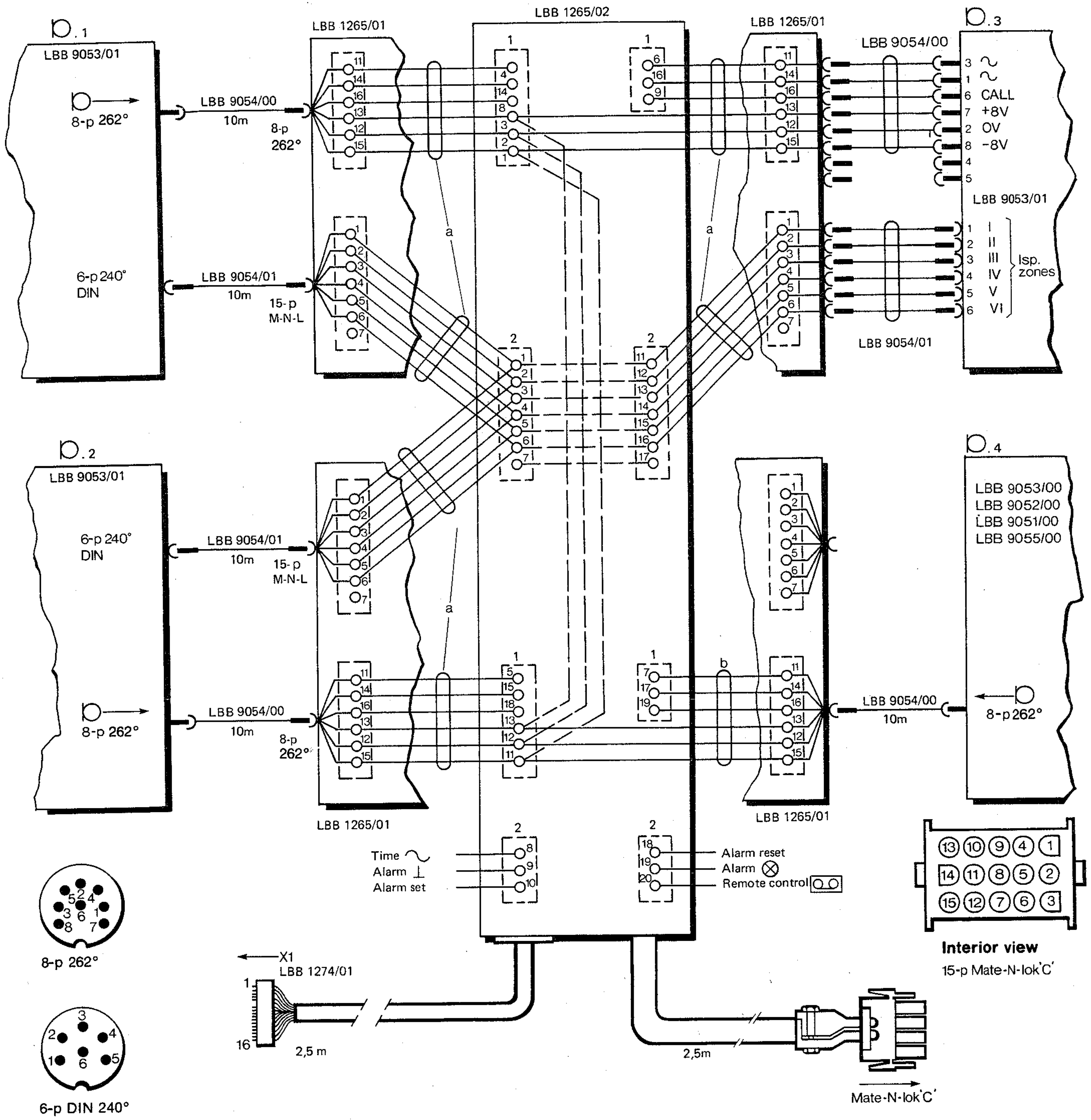

1
LBB 9053/01
8-p 262°
6-p 240°
DIN
LBB 9054/00
10m
8-p
262°
LBB 9054/01
10m
15-p
M-N-L
LBB 1265/01
LBB 1265/02
1
2
a
b
2
LBB 9053/01
6-p 240°
DIN
LBB 9054/01
10m
15-p
M-N-L
8-p 262°
LBB 9054/00
10m
8-p
262°
LBB 1265/01
3
LBB 9054/00
3 ∿
1 ∿
6 CALL
7 +8V
2 0V
8 -8V
4
5
LBB 9053/01
1 I
2 II
3 III
4 IV
5 V
6 VI
lsp. zones
LBB 9054/01
4
LBB 9053/00
LBB 9052/00
LBB 9051/00
LBB 9055/00
LBB 9054/00
10m
8-p 262°
LBB 1265/01
Time ∿
Alarm ⊥
Alarm set
Alarm reset
Alarm ⊗
Remote control
X1
LBB 1274/01
1
16
2,5 m
2,5m
Mate-N-lok'C'
8-p 262°
6-p DIN 240°
Interior view
15-p Mate-N-lok'C'

Fig. 47

11.2 INSTALLATION

In most cases where only short microphone cables are required between the microphone and the amplifier input, direct connection of the microphone is possible by simply inserting the cable plug into the appropriate input socket.
Where longer distances are involved use can be made of the wall mounting boxes LBB 1265/01 and LBB 1265/02 as shown in Figs. 46 and 47.

The interconnection cables, between the remotely located boxes LBB 1265/01 and the locally mounted box (or boxes) LBB 1265/02, which can be up to 1000 m in length, should be installed in plastic conduit. Knock-out holes for conduit are provided in these wall mounting boxes.
For the connection of the microphone LBB 9053/01, which is used in conjunction with the active loudspeaker zone selector LBB 1271/04, reference should be made to Figs. 46 and 47.

Use of dynamic microphones

Any dynamic microphone may be used with the SQ6 system by connecting that microphone to the line amplifier adapter LBB 9055/00.

In Fig. 46 the dynamic microphone LBB 9020/35 is shown connected, via a 5 m cable LBC 1208/05 to the line amplifier adapter. This adapter can, like any of the SQ6 microphones, be connected either directly to any of the amplifier's line inputs **or indirectly as shown in Fig. 46 via the wall** mounting boxes LBB 1265/01 and LBB 1265/02.

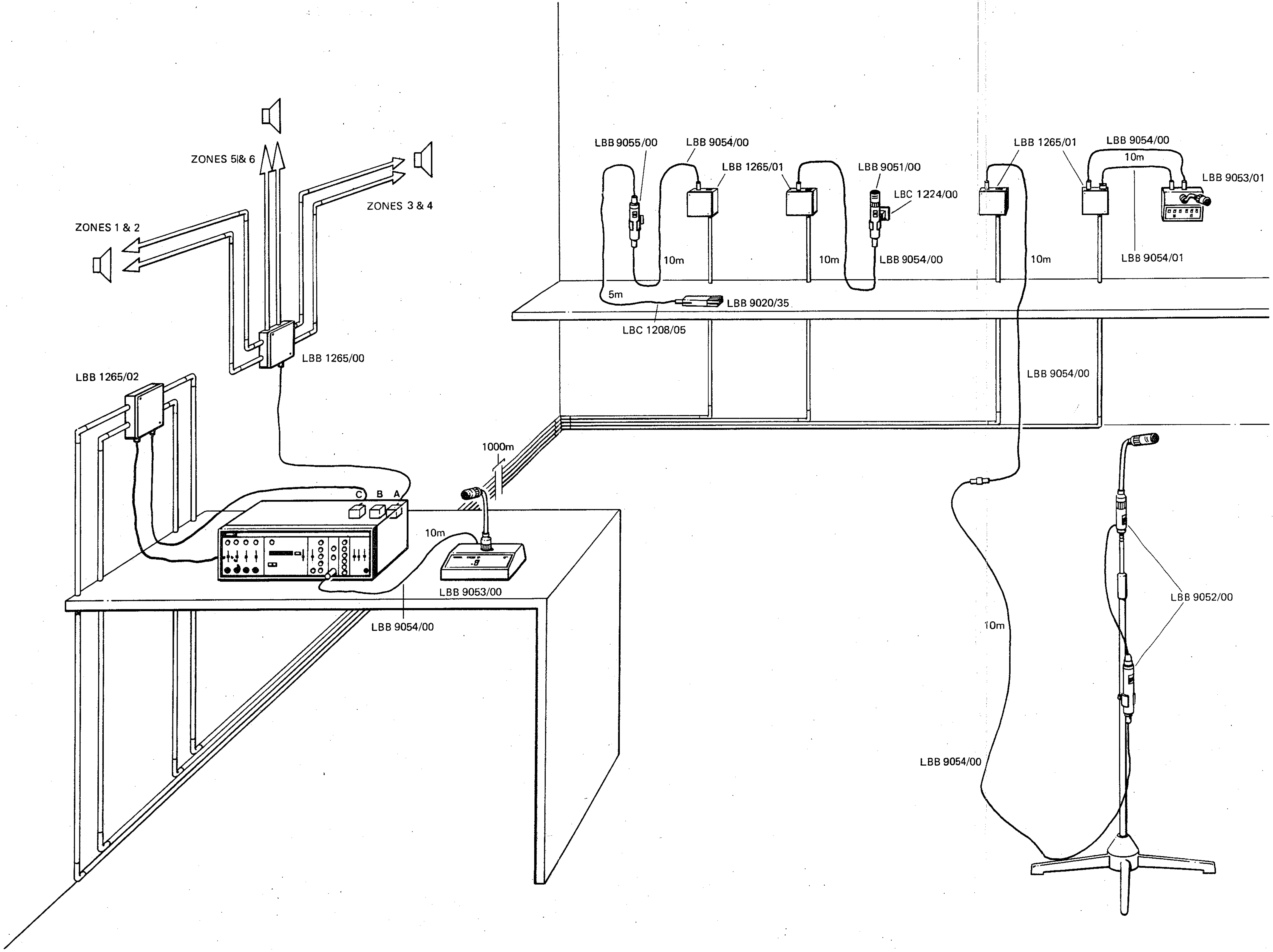

ZONES 5 & 6
ZONES 3 & 4
ZONES 1 & 2
LBB 1265/00
LBB 1265/02
C
B
A
1000m
10m
LBB 9053/00
LBB 9054/00
LBB 9055/00
LBB 9054/00
LBB 1265/01
LBB 9051/00
LBC 1224/00
10m
10m
LBB 9054/00
5m
LBB 9020/35
LBC 1208/05
LBB 1265/01
LBB 9054/00
10m
LBB 9053/01
10m
LBB 9054/01
LBB 9054/00
10m
LBB 9052/00
LBB 9054/00

Fig. 46

L.F. Roll-off (Bass-cut)

On delivery, each SQ6 microphone and also the line amplifier unit LBB 9055/00 has a low frequency roll-off filter in circuit. This roll-off filter may be deactivated by interconnecting solder tags 4 and 5 on the printed circuit board. See Fig. 48.

Access to the printed circuit board on microphones type LBB 9053/00 and LBB 9053/01 may be gained by removing the screws that hold the base plate in position.

On the line amplifier LBB 9055/00, on the line amplifier part of microphone assembly LBB 9052/00 and on the hand microphone LBB 9051/00, access may be gained to the printed circuit board by removing the switch mechanism.

Microphone and loudspeaker cabling

Because of the use of line levels and symmetrical inputs there is no need to separate microphone and loudspeaker cabling in an SQ6 installation.

SQ6 installations can therefore be made neat and tidy with the microphone and loudspeaker cables contained within the same plastic conduit without introducing feedback or crosstalk.

Table stands

Keyhole slots in the base of the table stands allows microphone units LBB 9053/00 and LBB 9053/01 to be mounted on a vertical surface.

This also applies to the SQ6 table stand LBC 1232/00 which is provided with a 3/8" Whitworth fitting which accepts the screw-fitting of the holder for the hand microphone, type LBB 9051/00 and the screw fitting for the floor stand adapter of the swan-necked microphone, type LBB 9052/00.

Floor stands

Recommended floor stands for use with SQ6 microphones are as follows:
Collapsible stand with boom, type LBB 1220/01.
Collapsible stands types LBC 1221/00 and 1222/00.

Mounting flange

A suitable flange for wall or table mounting the microphones types LBB 9051/00 and LBB 9052/00 is available under the type number LBC 1224/00.

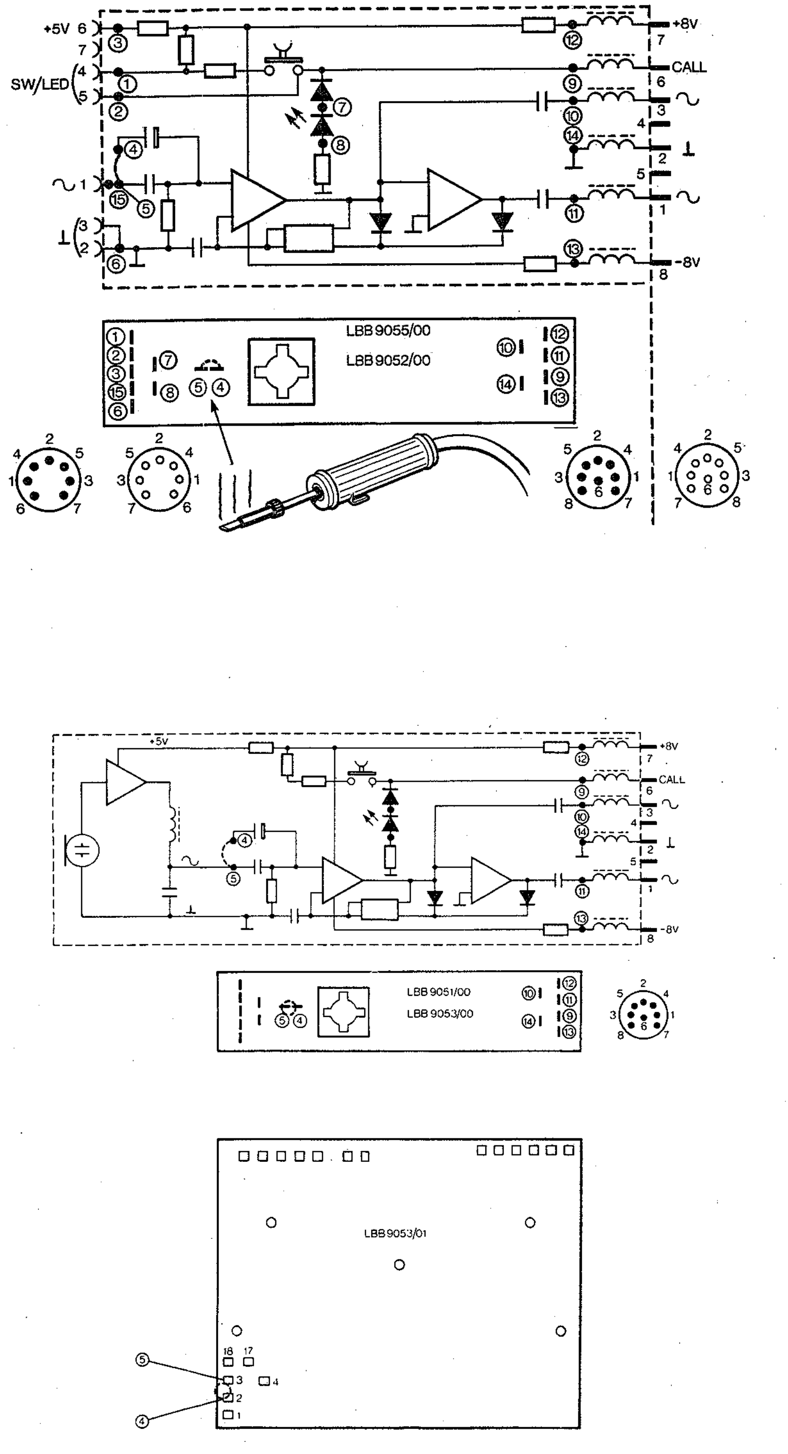


Fig. 48

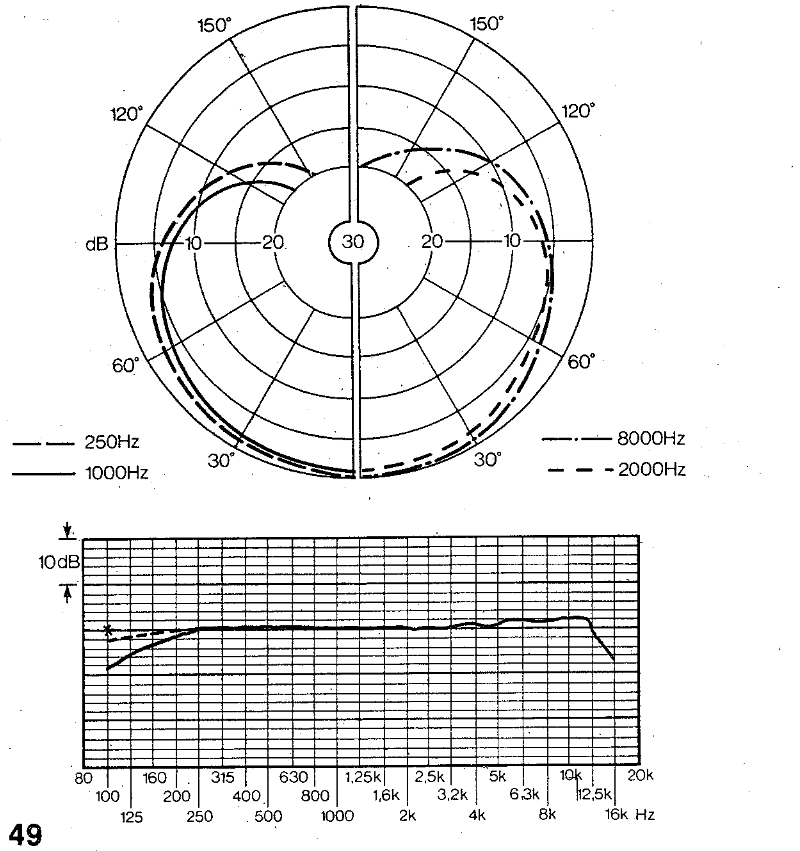


Fig. 49

11.3 TECHNICAL DATA

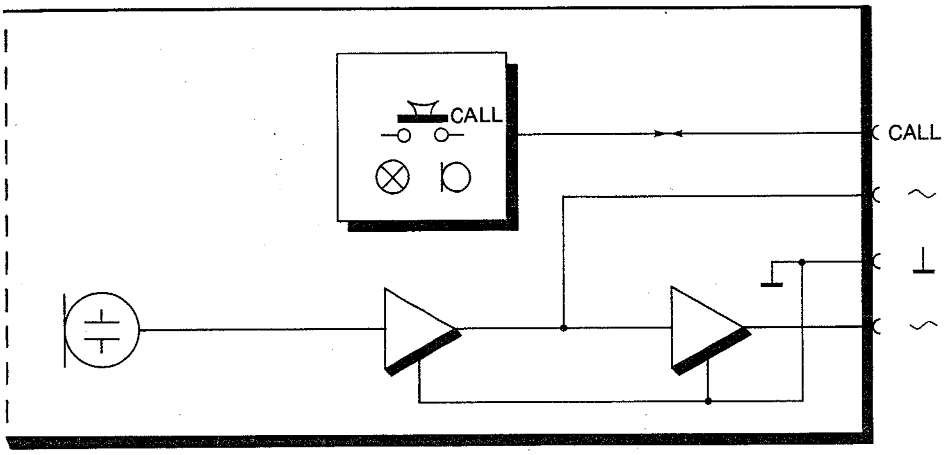
Frequency range	140 - 15000 Hz (−6 dB)
Frequency characteristic	Fig. 49A
Directional characteristic	Fig. 49B
Rated impedance *	≤ 50 Ω
Rated load impedance *	> 600 Ω
Rated sensitivity *	2500 mV/Pa
Front-to-rear ratio *	22 dB
Overload sound pressure level (SPL)	124 dB
Power supply	+ 8V, −8V, 0V (± 1V)
Rated output voltage * (symmetrical)	500 mV/0.2 Pa

* Rated value at 1 kHz

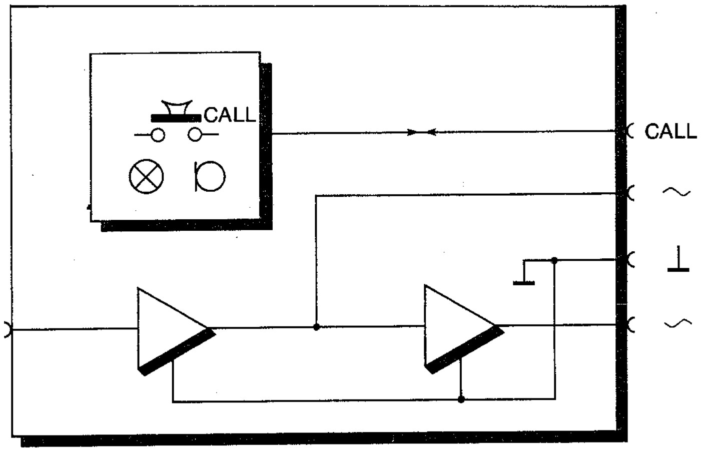
Dimensions	
LBB 9051/00	25 mm ∅ x 210 mm
LBB 9055/00	25 mm ∅ x 165 mm
LBB 9052/00 Swan-necked microphone + adapter	25 mm ∅ x 426 mm
LB 9053/00 and LBB 9053/01 (H x W x D) **Table stand**	55 x 160 x 135 mm
Microphone on swan-neck	25 mm ∅ x 340 mm
Weight	
LBB 9051/00	≈ 250 g
LBB 9055/00	≈ 200 g
LBB 9052/00	≈ 600 g
LBB 9053/00	≈ 1,75 kg
LBB 9053/01	≈ 1,95 kg

11.4 BLOCK DIAGRAMS

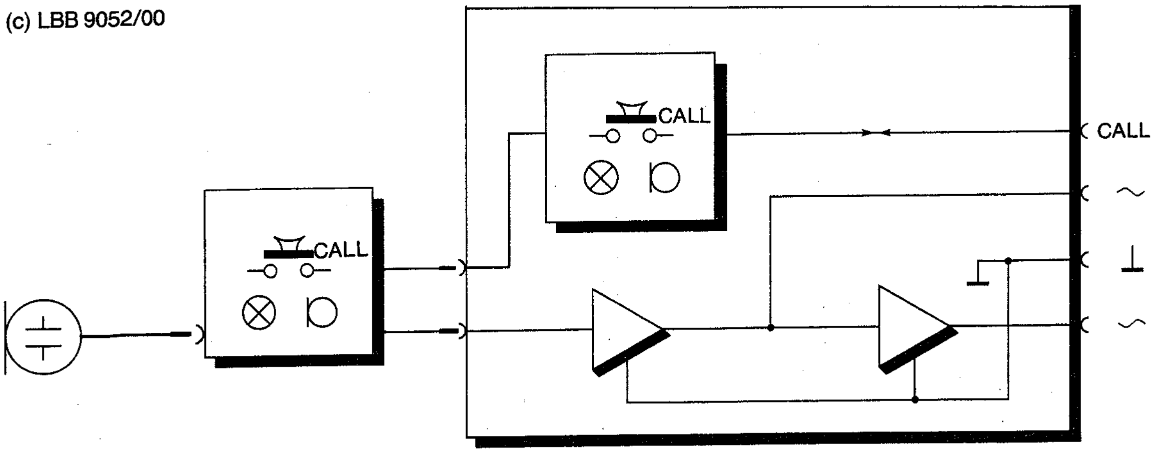
(a) LBB 9051/00



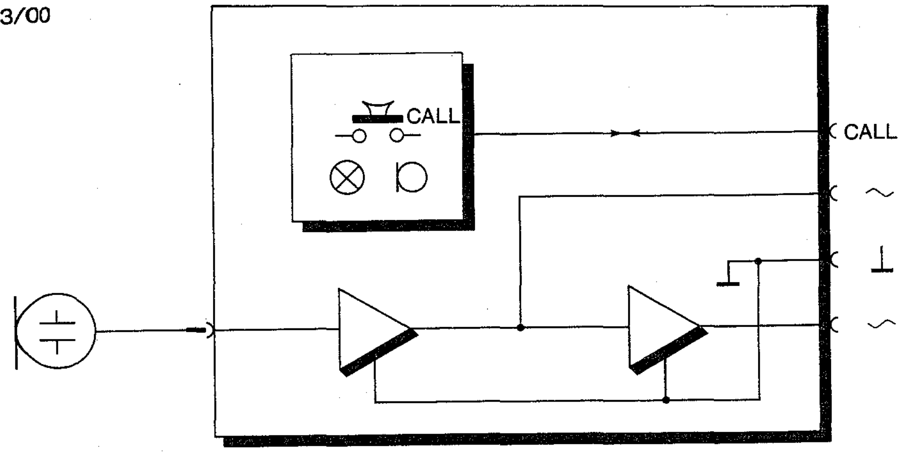
(b) LBB 9055/00



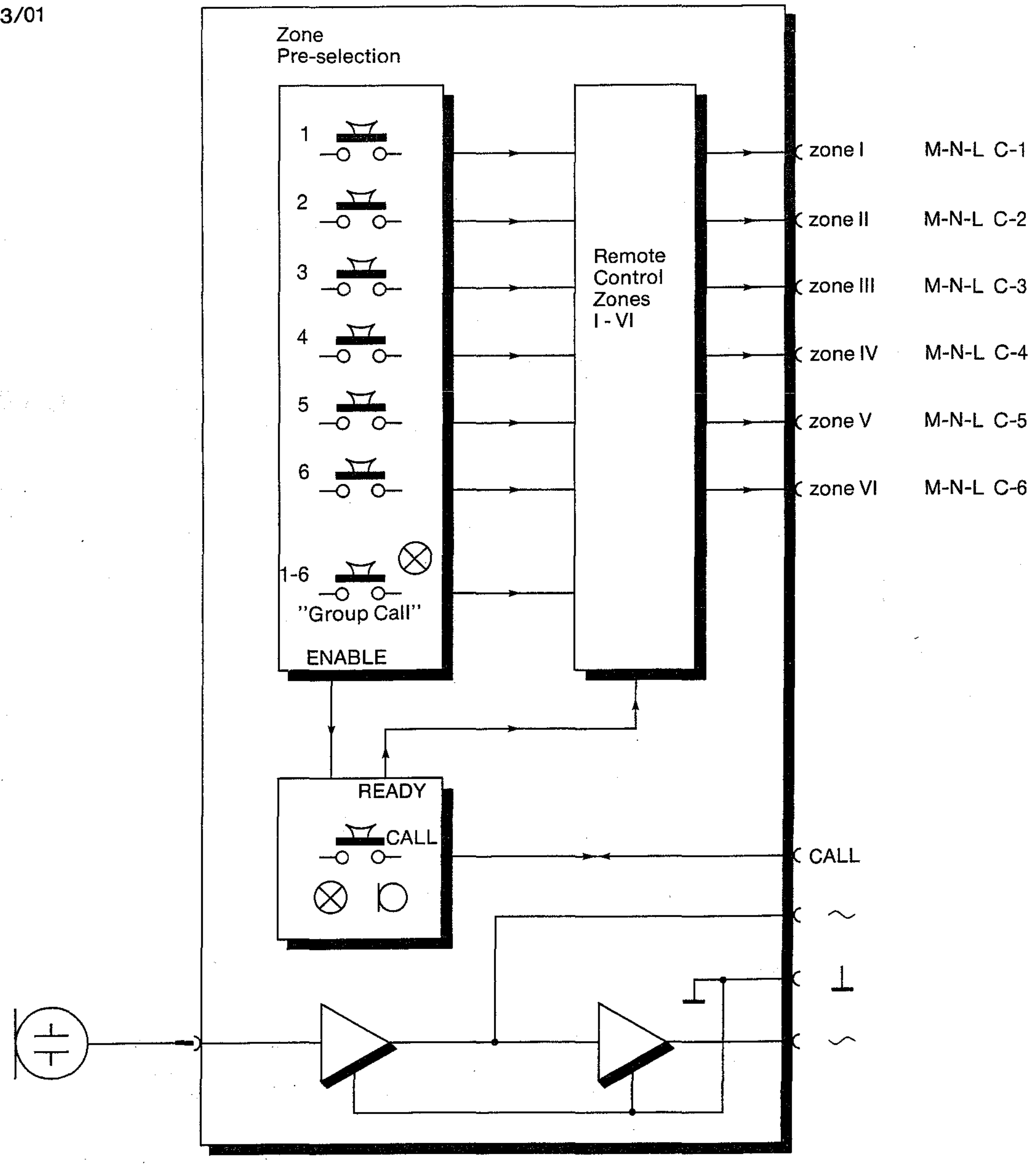
(c) LBB 9052/00


CALL
CALL
CALL

(d) LBB 9053/00



(e) LBB 9053/01

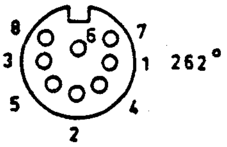

Zone
Pre-selection
1
2
3
4
5
6
1-6
"Group Call"
ENABLE
Remote
Control
Zones
I - VI
zone I
zone II
zone III
zone IV
zone V
zone VI
M-N-L C-1
M-N-L C-2
M-N-L C-3
M-N-L C-4
M-N-L C-5
M-N-L C-6
READY
CALL
CALL
~
⊥
~

11.5 CHECKLIST FOR FAULT LOCATION

LBB 9051/00

to be checked in combination with input sockets on LBB 1274/01 (or 1271/02/03)

8-p 262° connector

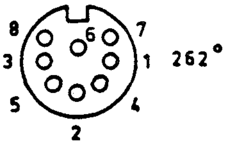


1,4 ∼	LF symmetrical
3,5 ∽	
2	0
6	Call
7	+8 V
8	-8 V

LBB 9052/00

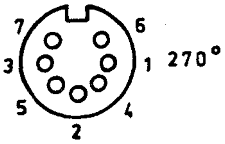
to be checked in combination with input sockets on LBB 1274/01 (or 1271/02/03)

8-p 262° connector (via microphone cable to amplifier)*



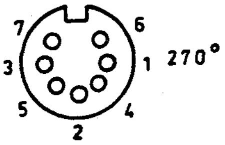
1,4 ∼	LF symmetrical
3,5 ∽	
2	0
6	Call
7	+8 V
8	-8 V

7-p 270° DIN connector (from stand adaptor to swan-neck)



1	LF (microphone level)
2,3	0
6	+5 V (loaded)

7-p 270° DIN connector (from line amplifier to stand adaptor)*



1	LF (microphone level)
2,3	0
4	Call + LED drive
5	
6	+5 V (loaded)
7	not connected

* See LBB 9055/00

LBB 9055/00

to be checked in combination with input sockets on LBB 1274/01 (or 1271/02/03) and a suitable microphone

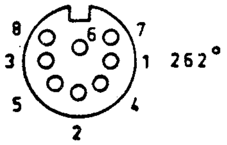
8-p 262° connector	see LBB 9052/00*
7-p 270° DIN connector	

LBB 9053/00

to be checked in combination with input sockets on LBB 1274/01 (or 1271/02/03)

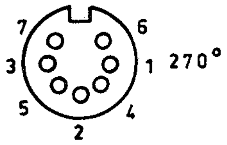
8-p 262° connector

1,4 ∼	LF symmetrical
3,5 ∽	
2	0
6	Call
7	+8 V
8	-8 V



7-p 270° DIN connector (from table stand to swan-neck)

1	LF (microphone level)
2,3	0
6	+5 V (loaded)

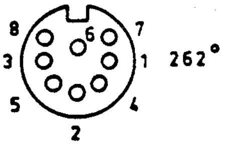


LBB 9053/01

to be checked in combination with input sockets on LBB 1274/01 (or 1271/02/03) and LBB 1271/04

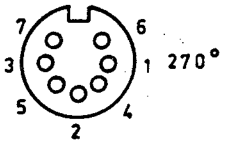
8-p 262° connector

1,4 ∼	LF symmetrical
3,5 ∽	
2	0
6	Call
7	+8 V
8	-8 V

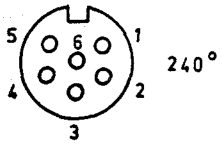


7-p 270° DIN connector (from table stand to swan-neck)

1	LF (microphone level)
2,3	0
6	+5 V (loaded)



6-p 240° DIN connector (remote control function)

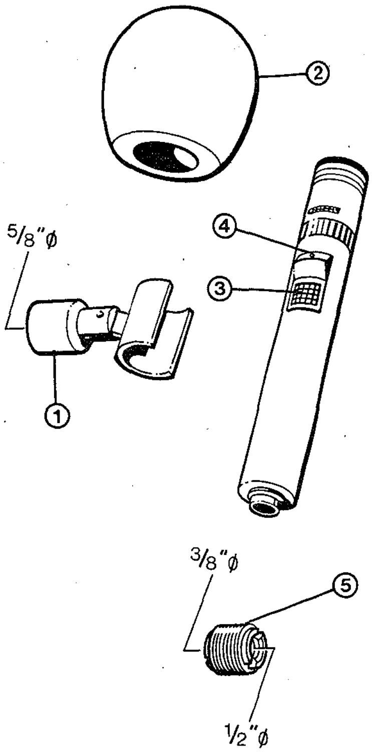


		Off	ON
1	LS zone I	0	-8
2	LS zone II	0	-8
3	LS zone III	0	-8
4	LS zone IV	0	-8
5	LS zone V	0	-8
6	LS zone VI	0	-8

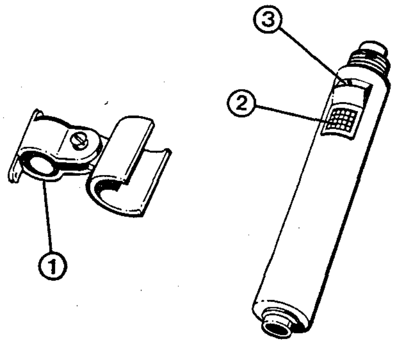
11.6 PARTS LIST

Code number	Description
LBB 9051/00 Hand microphone:	
5322 256 94178	Clamp
4822 462 71137	Wind cap
5322 414 26407	Pushbutton assy
5322 130 34959	LED TLG 123A (green)
5322 506 40015	Threaded reduction bush
LBB 9052/00 (Floor stand) microphone:	
5322 256 94179	Clamp
5322 506 40015	Threaded reduction bush
5322 414 26407	Pushbutton assy
5322 130 34959	LED TLG 123A (green)
5322 263 54015	Stand adapter
5322 242 34035	Swanneck-microphone
LBB 9055/00 Line amplifier:	
5322 256 94179	Clamp
5322 414 26407	Pushbutton assy
5322 130 34959	LED TLG 123A (green)

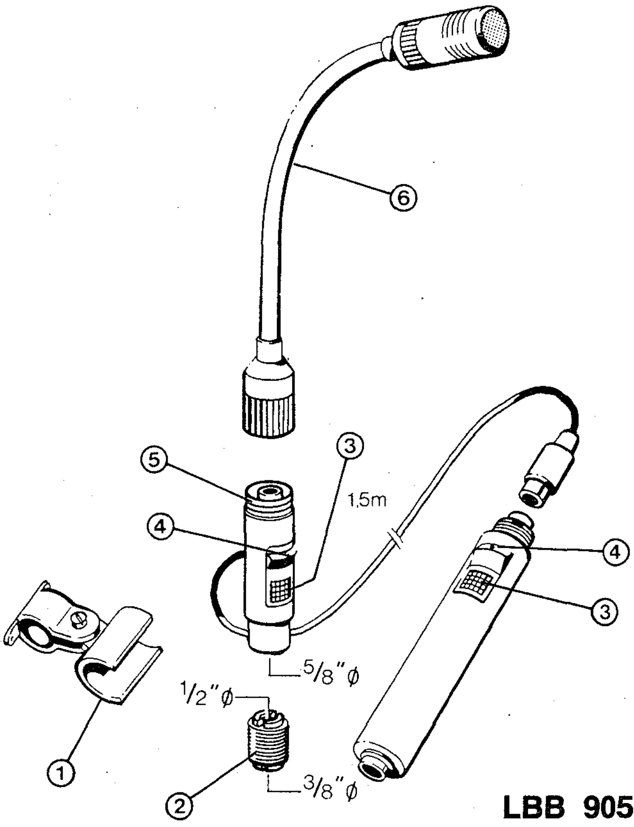
Code number	Description
LBB 9053/00 Table microphone	
5322 216 94256	P.C.B. assy
5322 242 34035	Swanneck microphone
LBB 9053/01 Table microphone with selectors	
5322 216 94255	P.C.B. assy
5322 242 34035	Swanneck microphone


②
⁵/₈"ø
④
③
①
³/₈"ø
⑤
½"ø

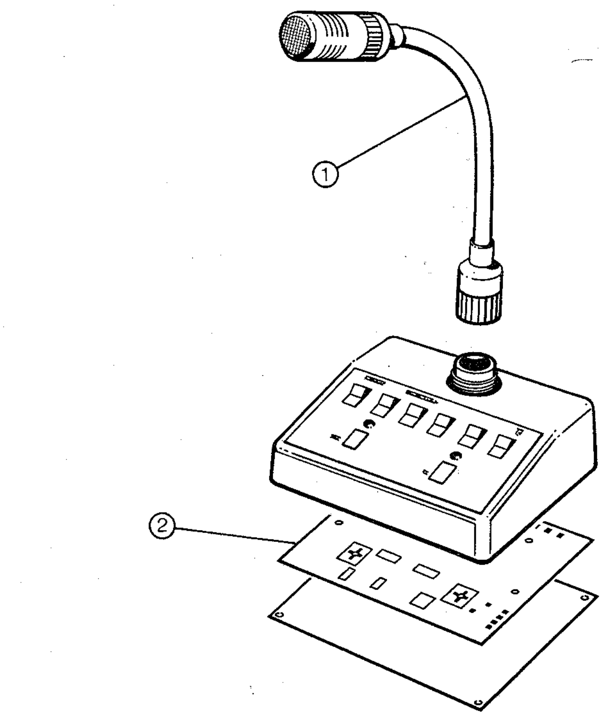
LBB 9051/00



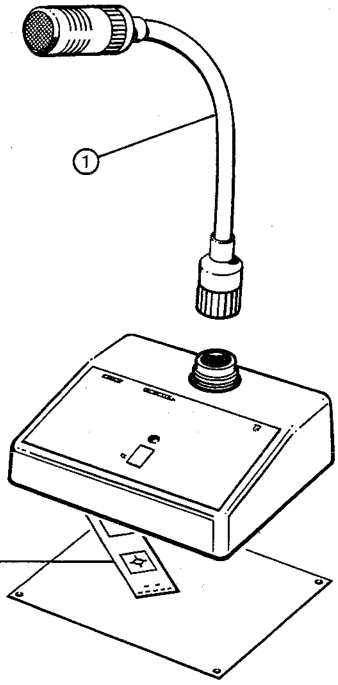
LBB 9055/00


⑥
⑤
③
1,5m
④
④
③
⁵/₈"ø
½"ø
①
②
³/₈"ø

LBB 9052/00

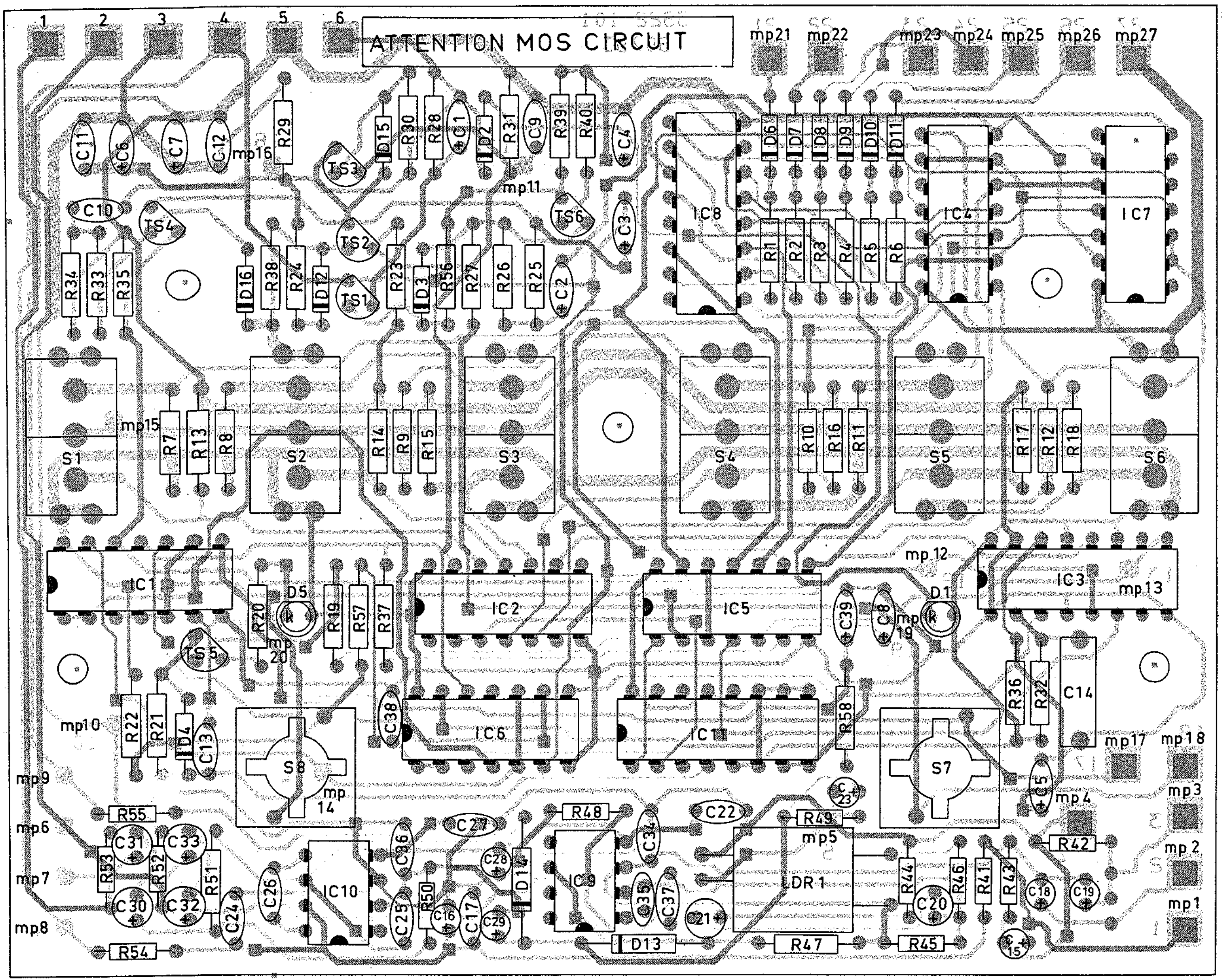


LBB 9053/01

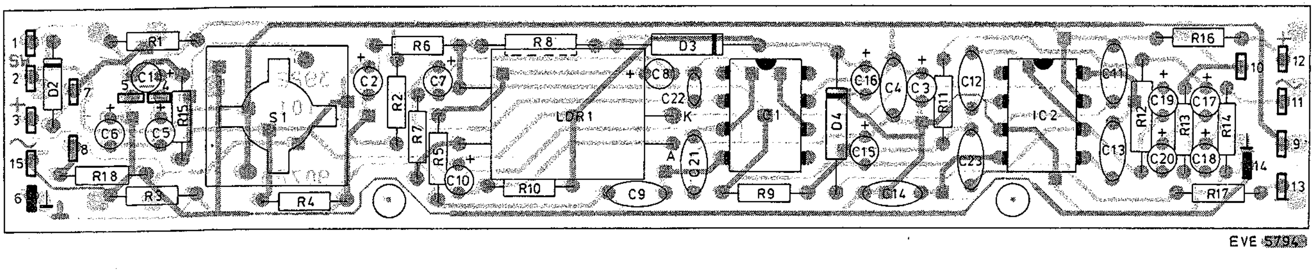


LBB 9053/00

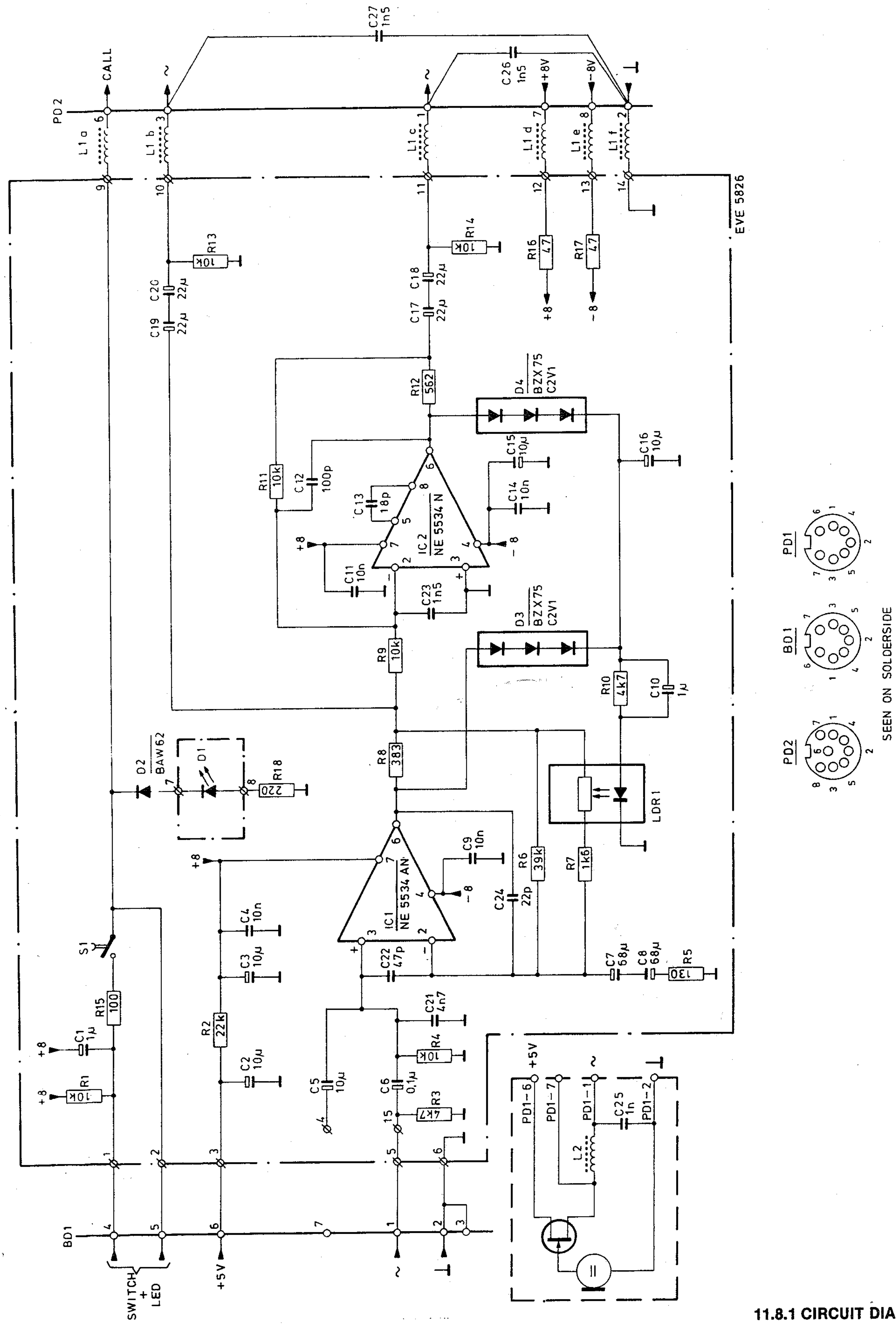
11.7 P.C.B. LAY-OUT


1
2
3
4
5
6
ATTENTION MOS CIRCUIT
mp21
mp22
mp23
mp24
mp25
mp26
mp27
C11
C6
C7
C12
mp16
R29
TS3
D15
R30
R28
C1
D2
R31
C9
R39
R40
C4
D6
D7
D8
D9
D10
D11
IC4
IC7
IC8
mp11
C10
TS4
TS6
C3
TS2
R34
R33
R35
D16
R38
R24
D12
TS1
R23
D3
R56
R27
R26
R25
C2
R1
R2
R3
R4
R5
R6
mp15
S1
R7
R13
R8
S2
R14
R9
R15
S3
S4
R10
R16
R11
S5
R17
R12
R18
S6
IC1
D5
R20
R19
R57
R37
IC2
IC5
C39
C8
D1
mp 12
IC3
mp13
mp 19
mp 20
TS5
C38
IC6
IC11
R58
R36
R32
C14
mp10
R22
R21
D4
C13
S8
mp 14
S7
mp17
mp18
mp9
C23
C5
mp 4
mp3
mp6
R55
C27
R48
C34
C22
R49
mp5
R42
mp 2
C31
C33
R53
R52
R51
IC10
C36
C28
D14
IC9
LDR 1
R44
R46
R41
R43
mp7
C30
C32
C24
C26
C25
R50
C16
C17
C29
C35
C37
C21
C20
C18
C19
mp 1
mp8
R54
D13
R47
R45
C15

EVE 5795

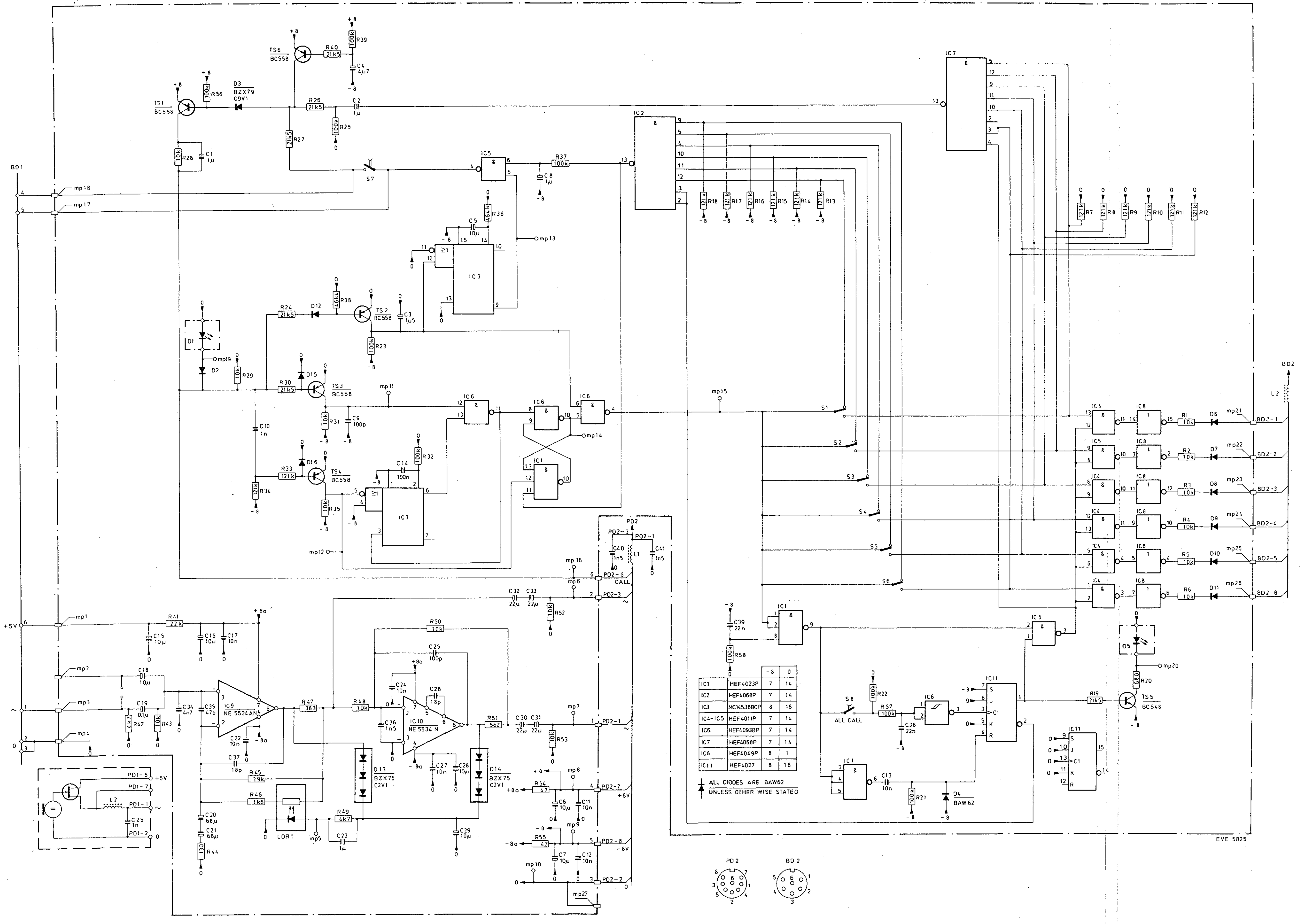

R1
1
2
3
15
6
D2
7
5
C14
4
C6
8
C5
R15
R18
R3
S1
C2
R6
C7
R2
R7
R5
C10
R4
R8
LDR1
C8
C22
K
A
C21
R10
C9
D3
IC1
R9
D4
C16
C4
C3
C15
C14
R11
C12
C23
IC2
C11
C13
R12
C19
C20
R13
C17
C18
R14
R16
R17
D14
10
12
11
9
13

EVE 5794



C27 1n5
C26 1n5
CALL
PD2
+8V
-8V
L1a
L1b
L1c
L1d
L1e
L1f
EVE 5826
R13 10k
R14 10k
C20 22µ
C19 22µ
C18 22µ
C17 22µ
R16 47
R17 47
+8
-8
R12 562
D4 BZX75 C2V1
D3 BZX75 C2V1
R11 10k
C12 100p
C13 18p
IC2 NE 5534 N
C15 10µ
C14 10n
C16 10µ
C11 10n
C23 1n5
R9 10k
R10 4k7
C10 1µ
R8 383
LDR1
D2 BAW62
D1
R18 220
IC1 NE 5534 AN
C9 10n
R6 39k
R7 1k6
C24 22p
C4 10n
C3 10µ
C22 47p
C7 68µ
C8 68µ
R5 130
S1
R15 100
C1 1µ
R1 10k
R2 22k
C2 10µ
C21 4n7
R4 10k
C5 10µ
C6 0,1µ
R3 4k7
+5V
PD1-6
PD1-7
PD1-1
PD1-2
C25 1n
L2
BD1
SWITCH + LED
PD1
BD1
PD2
SEEN ON SOLDERSIDE

11.8.1 CIRCUIT DIAGRAM


BD1
BD2
PD2
mp1
mp2
mp3
mp4
mp5
mp6
mp7
mp8
mp9
mp10
mp11
mp12
mp13
mp14
mp15
mp16
mp17
mp18
mp19
mp20
mp21
mp22
mp23
mp24
mp25
mp26
mp27
+5V
TS1 BC558
TS2 BC558
TS3 BC558
TS4 BC558
TS5 BC548
TS6 BC558
D3 BZX79 C9V1
D13 BZX75 C2V1
D14 BZX75 C2V1
D4 BAW62
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9 NE 5534 AN
IC10 NE 5534 N
IC11
S1
S2
S3
S4
S5
S6
S7
S8 ALL CALL
LDR1
L1
L2
CALL
PD1-1
PD1-2
PD1-6
PD1-7
PD2-1
PD2-2
PD2-3
PD2-6
PD2-7
PD2-8
BD2-1
BD2-2
BD2-3
BD2-4
BD2-5
BD2-6
+8V
-8V
EVE 5825

		-8	0
IC1	HEF4023P	7	14
IC2	HEF4068P	7	14
IC3	MC14538BCP	8	16
IC4-IC5	HEF4011P	7	14
IC6	HEF4093BP	7	14
IC7	HEF4068P	7	14
IC8	HEF4049P	8	1
IC11	HEF4027	8	16

ALL DIODES ARE BAW62
UNLESS OTHER WISE STATED

11.8.2 CIRCUIT DIAGRAM

12.1 DESCRIPTION

The SQ6 system allows loudspeakers in up to 12 centrally controlled zones and an unlimited number of non-centrally controlled zones to be connected, in either two or three wire configurations, to the amplifier's output.

The only limitation is that the total load presented to the amplifier by the loudspeakers must not exceed the amplifier's power rating.

Ease and flexibility of system design with regard to available power, required number of loudspeakers, coverage and required sound pressure levels is made possible by the incorporation of voltage taps on the amplifier's audio output transformer (See Fig. 50. and also by power taps on the wide range of Philips loudspeakers.

If, for example, the voltage output of a fully loaded 50W amplifier is reduced from 100V to 70V, extra loudspeakers may be added so that the combined total "nominal" loudspeaker power becomes 100W. The loudspeakers then, however, operate at a half of their "nominal" power rating but the total load on the amplifier remains at a maximum of 50W.

The Sound Pressure Level produced by each loudspeaker, in this case, is reduced by 3dB; a change in level which is hardly perceptible.

The adjacent table shows some of the connection possibilities when using a 50W amplifier and 6W loudspeakers with 6W, 3W and 1.5W taps.

Provision is made, on the SQ6 amplifiers, so that loudspeakers in all zones are switched on for alarm signals, even in those zones which are pre-set off. See Fig. 50.

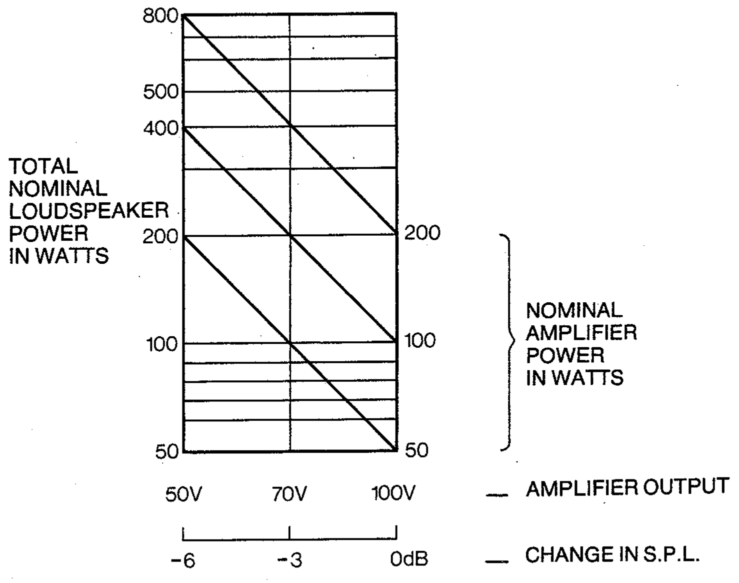
When a Philips three wire system is installed, the settings of the individual loudspeaker volume controls are overridden and all loudspeakers relay the alarm signal at full power. See zone VI in Fig. 50.

12.2 INSTALLATION

(a) Adjustment of the audio output voltage.

The output voltage to loudspeakers in zones I-VI which are controlled via the zone selector modules LBB 1271/01 and LBB 1271/04 can be changed from 100V to either 70V or 50V. The AMP connector on tag 13 (100V) on the output transformer should be moved to tag 12 for 70V or to tag 10 for 50V.

50W Amp. output voltage	Number of 6W (nominal) loudspeakers		
	6W tap	3W tap	1.5W tap
100V	8 at 6 W (nominal)	16 at 3 W	32 at 1.5 W
70V	16 at 3 W (half)	32 at 1.5 W	64 at 0.75 W
50V	32 at 1.5W (quarter)	64 at 0.75W	128 at 0.375W



(b) Connection of loudspeakers in non-centrally controlled zones.

Loudspeakers in zones which are not to be controlled from the zone selector modules LBB 1271/01 or LBB 1271/04 can be connected to the 100V (Pin 9), 70V (Pin 8) or 50V (Pin 7) output on the Mate-N-lok connector (A) on the amplifier's rear panel using the connector plug supplied with the amplifier. Alternatively, these loudspeakers may be connected via the wall mounting box LBB 1265/00, which provides pairs of screw terminals (0V and signal) for up to six centrally controlled and three non-centrally controlled zones.

(c) Centrally controlled zones.

Loudspeakers in zones I-VI which are controlled via the zone selector modules may also be connected directly to the Mate-N-lok connector (A) on the amplifier's rear panel. For a more convenient method of connection, however, use should be made of the wall mounting box LBB 1265/00 which provides a screw terminal for each connection.

(d) "All call"

The "All call" function, which ensures that all loudspeakers are switched on for alarm signals, can also be extended to switch on, at full power, those loudspeakers which have a volume control. Examples of a few of the many possible different configurations are shown connected to the zone VI output in Fig. 50.

The functions of the four loudspeakers shown connected to this output are as follows:

Loudspeaker (i)
- will relay the normal programme (e.g. music) with volume control but will operate at full volume during alarm signals.

Loudspeaker (ii)
- will only be switched on for alarm signals.

Loudspeaker (iii)
- functions in the same way as loudspeaker (i) but use is made of twin transformers and a conventional volume potentiometer.

Loudspeaker (iv)
- will only relay the normal programme and will be switched off during alarm signals. This loudspeaker is suitable for use in the control room.

The "all call" function can be extended by your Philips dealer, upon special request, to cover applications where alarm messages or special announcements must be relayed in all zones.

These connection methods, plus the pre-programming, pre-selection and remote control capabilities of the SQ6 system provide the solution to practically all installation requirements.

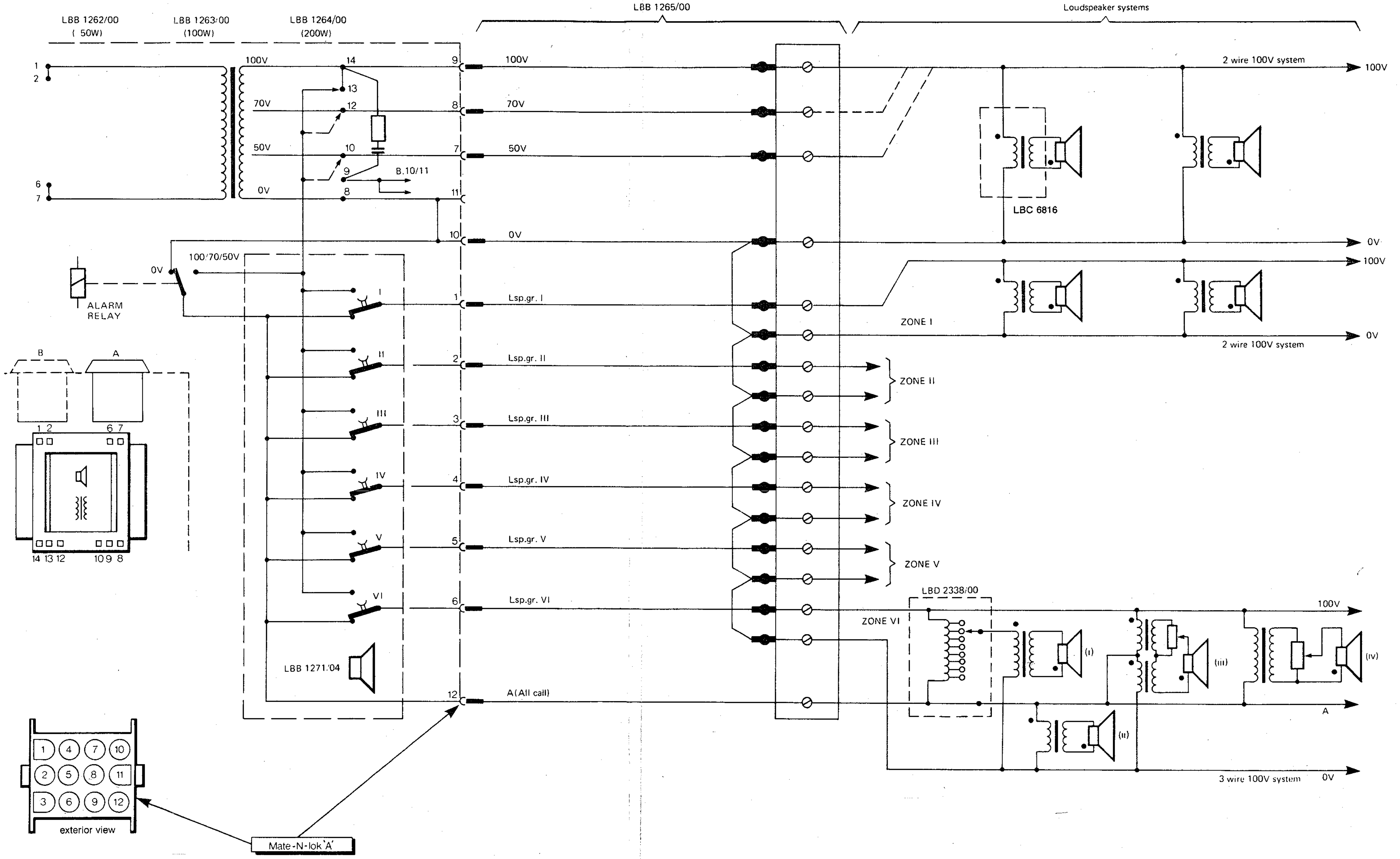

LBB 1262/00
(50W)
LBB 1263/00
(100W)
LBB 1264/00
(200W)
LBB 1265/00
Loudspeaker systems
1
2
6
7
100V
70V
50V
0V
14
13
12
10
9
8
B.10/11
11
ALARM
RELAY
0V
100/70/50V
I
II
III
IV
V
VI
LBB 1271/04
Lsp.gr. I
Lsp.gr. II
Lsp.gr. III
Lsp.gr. IV
Lsp.gr. V
Lsp.gr. VI
A(All call)
2 wire 100V system
LBC 6816
ZONE I
ZONE II
ZONE III
ZONE IV
ZONE V
ZONE VI
LBD 2338/00
(i)
(ii)
(iii)
(iv)
A
3 wire 100V system
B
A
1 2
6 7
14 13 12
10 9 8
exterior view
Mate-N-lok 'A'

Fig. 50

Errata
Please substitute these attached errata sheets for the corresponding sheets in the service manual.

Ⓕ

REGLAGES ET CONTROLES

Instruments de mesure requis

— Dynamomètre 50 - 500 gr.	4822 395 80028
— Cassette de friction d'essai	4822 395 30054
— Cassette d'essai de l'azimuth (par ex. cassette universelle d'essai SBC 133 Fe)	4822 397 30039

1. Azimuth (Fig. 4)

- Brancher les deux fils de tête à travers un pré-ampli en parallèle à un millivoltmètre.
- Grâce à une cassette d'essai pour azimuth, reproduire le signal de 10 kHz.
- Par la vis 11, régler la tension de sortie au maximum.

Nota
Après le réglage de l'azimuth, régler si possible à nouveau la sensibilité de reproduction.

2. Friction d'enroulement et contre-friction

- Placer les cassettes d'essai de friction dans l'appareil.
- La friction d'enroulement doit se situer entre 40 et 70 gr/cm.
- La contre-friction doit se situer entre 1 et 3 gr/cm.

3. Galet presseur (Fig. 8)

La force de pression contre le cabestan doit se situer entre 250- et 350 gr. Ceci est mesurable comme suit:
- L'appareil en position reproduction;
- repousser le galet presseur par le dynamomètre sur le point indiqué;
- c'est au moment où le galet presseur se détache du cabestan que l'affichage de l'instrument doit être lu.
- La force de pression du galet presseur n'est pas réglable. Si cette force n'est pas exacte il faut remplacer le ressort 58 pour le galet presseur de gauche et le ressort 78 pour celui de droite.

4. Pleurage

- Brancher les deux fils de tête à travers un ampli à l'instrument de mesure du pleurage.
- Reproduire la section 3150 Hz de la cassette d'essai;
- le taux de pleurage ne doit pas dépasser 0,35 %
- la vitesse peut aussi être lue; un écart maximum de –2,5 %+5 % est admissible.
  La vitesse n'est pas réglable.

5. Moteur

- La gorge de courroie de la poulie de moteur doit se trouver dans les limites de 0,3 mm à hauteur égale de la gorge du volant 96 et de la roue intermédiaire 108, ceci par rapport au châssis.

6. Le volant (Fig. 5)

Le jeu axial du volant doit être de 0,1 - 0,3 mm.
A régler par la vis 74.

Ⓓ

EINSTELLUNGEN UND KONTROLLEN

Erforderliche Messgeräte

— Federwaage 50 - 500 p	4822 395 80028
— Friktionstestcassette	4822 395 30054
— Azimut-Testcassette (z.B. Universal-Testcassette SBC133Fe)	4822 397 30039

1. Azimut (Bild 4)

- Beide Kopfdrähte über einen Vorverstärker parallel an ein Millivoltmeter anschliessen.
- Mit Hilfe einer Azimut-Testcassette das 10-kHz-Signal wiedergeben.
- Mit Hilfe der Schraube 11 die Ausgangsspannung auf Höchstwert einstellen.

2. Aufwickelfriktion (SVL) und Gegenzug

- Die Friktionstestcassette in das Gerät einlegen.
- Die Aufwickelfriktion soll 40 - 70 pcm betragen.
- Der Gegenzug soll 1 - 3 pcm betragen.

3. Andruckrolle (Bild 8)

Der Andruckrollendruck an der Tonwelle soll 250 - 350 p betragen. Dieser Druck lässt sich wie folgt messen:
- Gerät in Wiedergabestellung.
- Andruckrolle mit der Federwaage an der gekennzeichneten Stelle zurückdrücken.
- Im Augenblick da sich die Andruckrolle von der Tonwelle loslöst, soll die Anzeige an der Federwaage abgelesen werden.
- Der Andruckrollendruck kann nicht eingestellt werden.

4. Jaulwert

- Beide Kopfdrähte über einen Verstärker mit einem Messgerät für Gleichlaufschwankungen verbinden.
- Den 3150-Hz-Teil der Testcassette wiedergeben.
- Der Jaulwert soll zuhöchst 0,35 % betragen.
- Auch lässt sich die Geschwindigkeit ablesen. Höchstzulässige Abweichung –2,5 und +5 %. Die Geschwindigkeit kann nicht eingestellt werden.

5. Motor

- Die Seilnute der Motorrolle soll, auf den Rahmen bezogen, innerhalb von 0,3 mm in gleicher Höhe mit der Seilnute des Schwungrads 96 und des Zwischenrads 108 liegen.

6. Schwungrad (Bild 5)

Das Axialspiel des Schwungrads soll 0,1 - 0,3 mm sein. Das Spiel lässt sich mit Hilfe der Schraube 74 einstellen.

CG75B110
CG75B120
CG75B17C

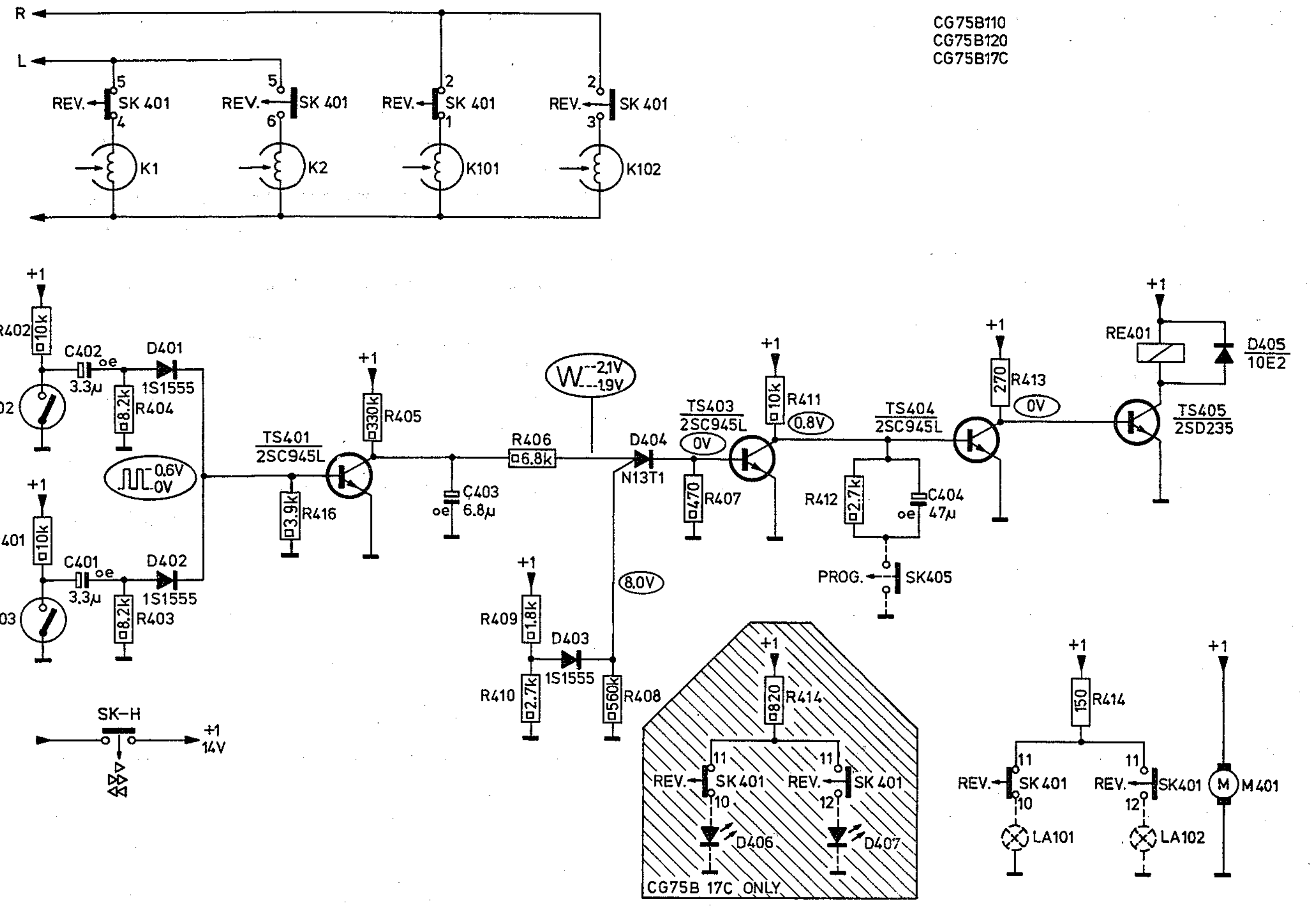

R
L
REV.
SK 401
K1
K2
K101
K102
+1
R402 10k
C402 3.3μ oe
D401 1S1555
R404 8.2k
SK402
R401 10k
C401 3.3μ oe
D402 1S1555
R403 8.2k
SK403
0.6V 0V
TS401 2SC945L
R416 3.9k
R405 330k
C403 6.8μ oe
R406 6.8k
W --2.1V --1.9V
D404 N13T1
8.0V
R409 1.8k
R410 2.7k
D403 1S1555
R408 560k
TS403 2SC945L
0V
R407 470
R411 10k
0.8V
TS404 2SC945L
R412 2.7k
C404 47μ oe
PROG.
SK405
R413 270
0V
RE401
D405 10E2
TS405 2SD235
R414 820
D406
D407
CG75B 17C ONLY
R414 150
LA101
LA102
M401
SK-H
+1 14V

Fig. 10

23 918 C12/B

CG71B150

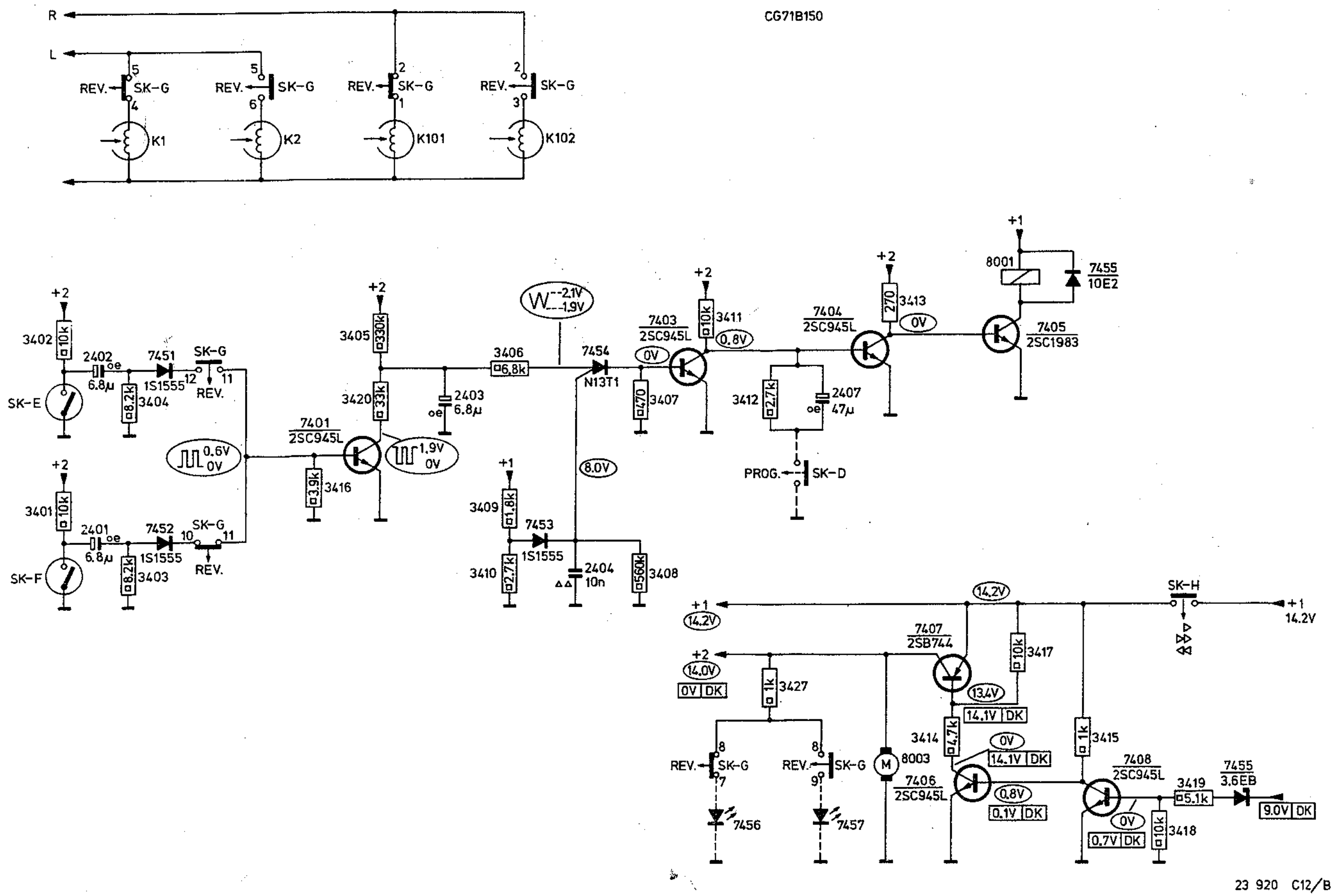

R
L
REV.
SK-G
K1
K2
K101
K102
+2
3402 10k
2402 6.8μ oe
7451 1S1555
3404 8.2k
SK-E
3401 10k
2401 6.8μ oe
7452 1S1555
3403 8.2k
SK-F
0.6V 0V
7401 2SC945L
3416 3.9k
3405 330k
3420 33k
1.9V 0V
2403 6.8μ oe
3406 6.8k
W --2.1V --1.9V
7454 N13T1
8.0V
3409 1.8k
3410 2.7k
7453 1S1555
2404 10n
3408 560k
7403 2SC945L
0V
3407 470
3411 10k
0.8V
7404 2SC945L
3412 2.7k
2407 47μ oe
PROG.
SK-D
3413 270
0V
8001
7455 10E2
7405 2SC1983
+1 14.2V
+2 14.0V
0V DK
7407 2SB744
3417 10k
13.4V
14.1V DK
3427 1k
3414 4.7k
8003
M
7406 2SC945L
0V
14.1V DK
0.8V
0.1V DK
3415 1k
7408 2SC945L
0V
0.7V DK
3418 10k
3419 5.1k
7455 3.6EB
9.0V DK
7456
7457
SK-H
14.2V

Fig. 11

23 920 C12/B

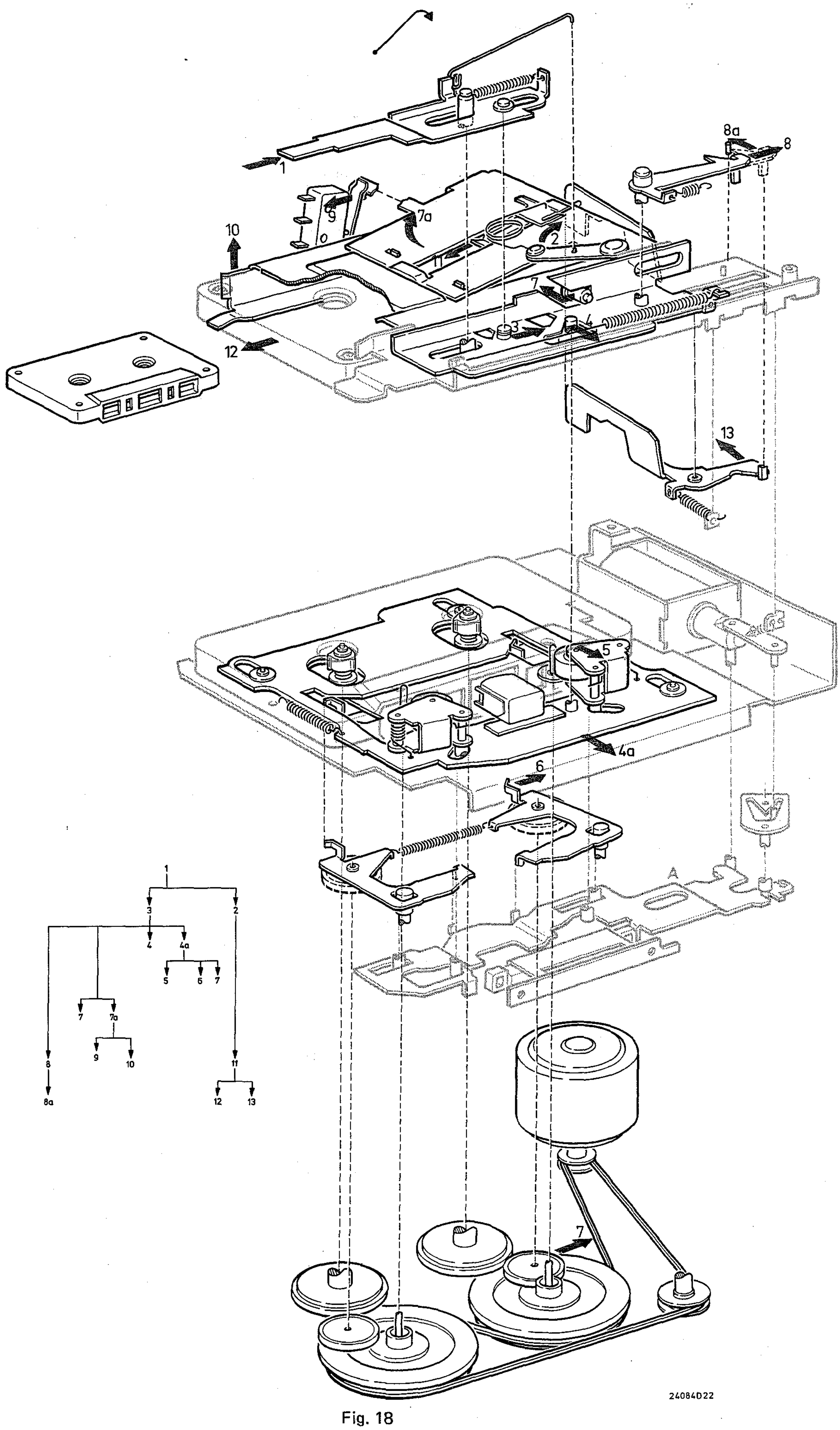

8a
7a
4a
4a
7a
8a
24084D22

Fig. 18

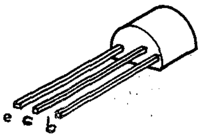
-TS-	
2SC945L	4822 130 41396
2SC744	4822 130 41564
2SC1983	4822 130 41535
2SD235	4822 130 40982

-D-	
1S1555	4822 130 31351
N13T1	4822 130 20082
10E2	4822 130 31087
3, 6EB	4822 130 31364

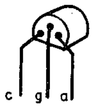
-R-		
3413 (R413)	Metal 270 Ω 1 W	4822 116 51103

-DIV-	
SK401 (SK-G)	4822 277 30653
SK402 (SK-E)	4822 325 10066
SK403 (SK-F)	4822 325 10066
SKH	4822 271 30252

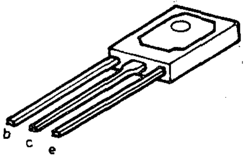
2SC945



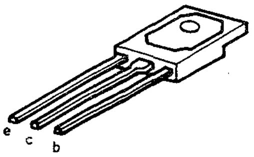
N13T1



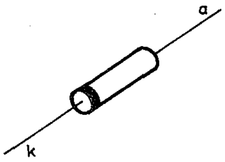
2SC744



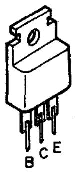
2SC1983



1S1555
10E2
3,6EB



2SD235

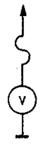


Carbon resistor 1/4 W

o* Electrolytic capacitor

ΔΔ* Ceramic plate cap.

*c = 6,3 V
d = 10 V
e = 16 V
f = 25 V
g = 40 V
h = 63 V



Electronic voltmeter

GB

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

F

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

NL

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

D

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

Service Service Service Information

1982-10-09

Auto cassette deck CG75B150

A82-337

From week 101 onwards the wiring of the erase head 8002 has been improved. The earth wire of the head and the screening of the signal wire to the LF-part are now being soldered onto the reverse switch panel (see Fig. 1).
Reason: less chance that the earth wire breaks, because the head bracket slides to and fro upon inserting and ejecting a cassette.

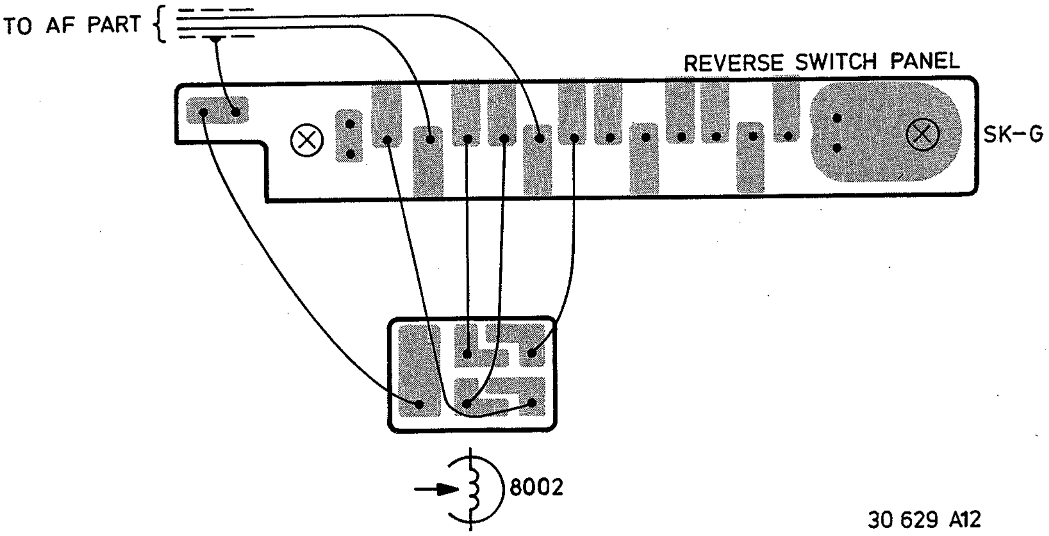


Fig. 1

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Printed in the Netherlands

SQ6

ELA SERVICE INFORMATION

PHILIPS

1982.06.14	LBB 1272/01	Eb 866
Already published		

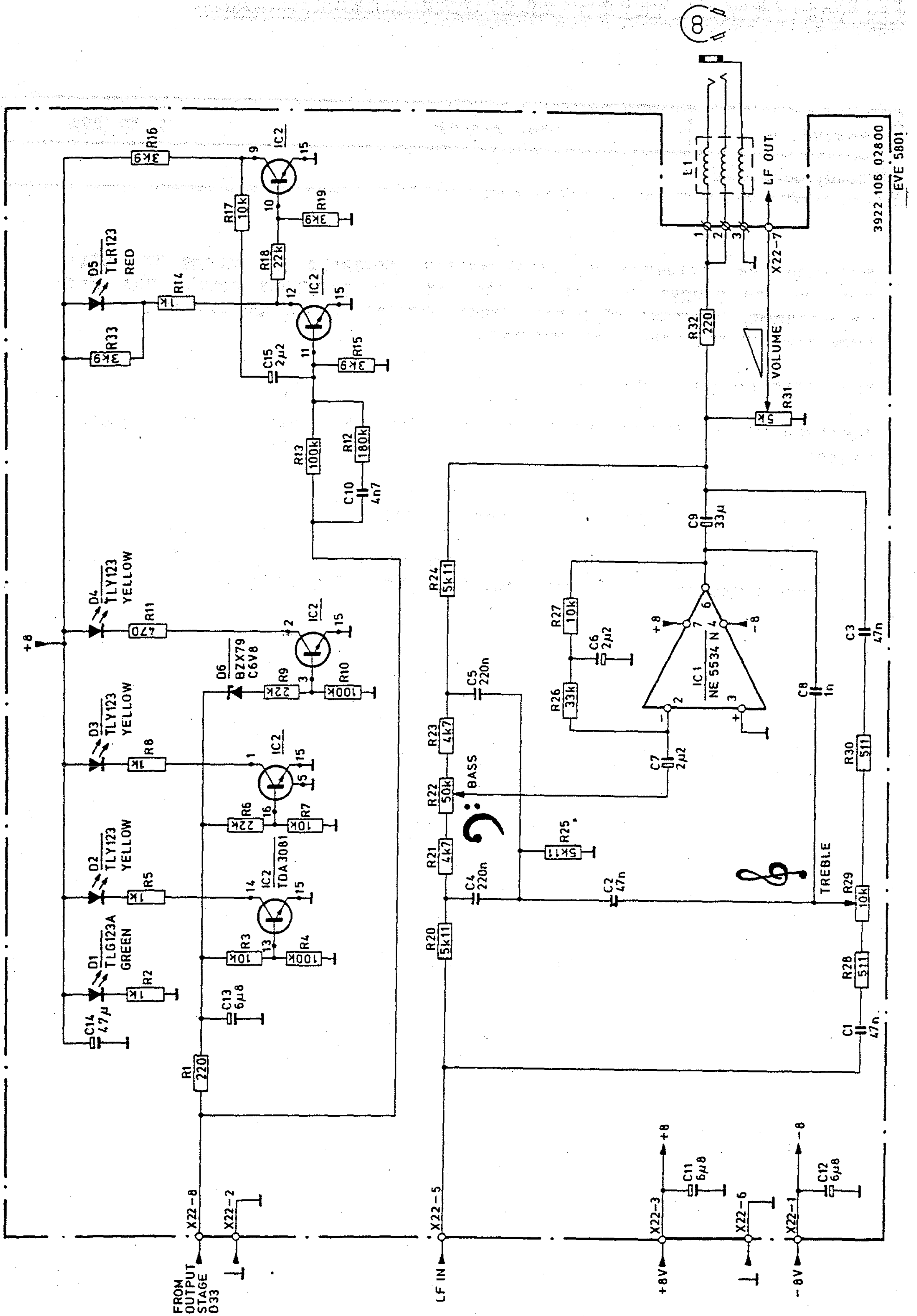
To avoid the influence of electrostatic discharge and strong HF radiation on the proper working of the LBB 1272/01, this module has been re-designed, together with some other modules of the SQ6 system. (See also Eb 863, 864, 865 and 867.)

The modification concerns the following part:

Addition of an HF choke L1 (toroid) in the leads to the headphone socket.

This modification is introduced in the master module, delivered in the amplifiers LBB 1262/00, 1263/00 and 1264/00.

For the master module LBB 1272/01, delivered as a separate typenumber, this modification will be introduced in future production.


R16 3k9
IC2 9 15 10
R17 10k
R19 3k9
R18 22k
D5 TLR123 RED
R14 1k
IC2 12 15 11
R33 3k9
C15 2µ2
R15 3k9
R13 100k
R12 180k
C10 4n7
D4 TLY123 YELLOW
R11 470
IC2 2 15 3
+8
D6 BZX79 C6V8
R9 22k
R10 100k
D3 TLY123 YELLOW
R8 1k
IC2 1 15 5 16
R6 22k
R7 10k
D2 TLY123 YELLOW
R5 1k
IC2 TDA 3081 14 15 13
R3 10k
R4 100k
D1 TLG123A GREEN
R2 1k
C14 47µ
C13 6µ8
R1 220
X22-8
X22-2
FROM OUTPUT STAGE D33
L1
1 2 3
LF OUT
X22-7
3922 106 02800
EVE 5801
R32 220
VOLUME
R31 5k
C9 33µ
R24 5k11
R27 10k
C6 2µ2
R26 33k
+8 7 6 4 -8
IC1 NE 5534 N
2 3
C5 220n
R23 4k7
C7 2µ2
R22 50k
BASS
R25 5k11
R21 4k7
C4 220n
C2 47n
TREBLE
R29 10k
C3 47n
C8 1n
R30 511
R20 5k11
R28 511
C1 47n
X22-5
LF IN
+8
C11 6µ8
X22-3
+8V
X22-6
-8
C12 6µ8
X22-1
-8V

3.9 MASTER MODULE
LBB 1272/01

E b 866

ELA SERVICE INFORMATION

PHILIPS

1982.08.26 | LBB 1271/01 | Eb 848

Already published

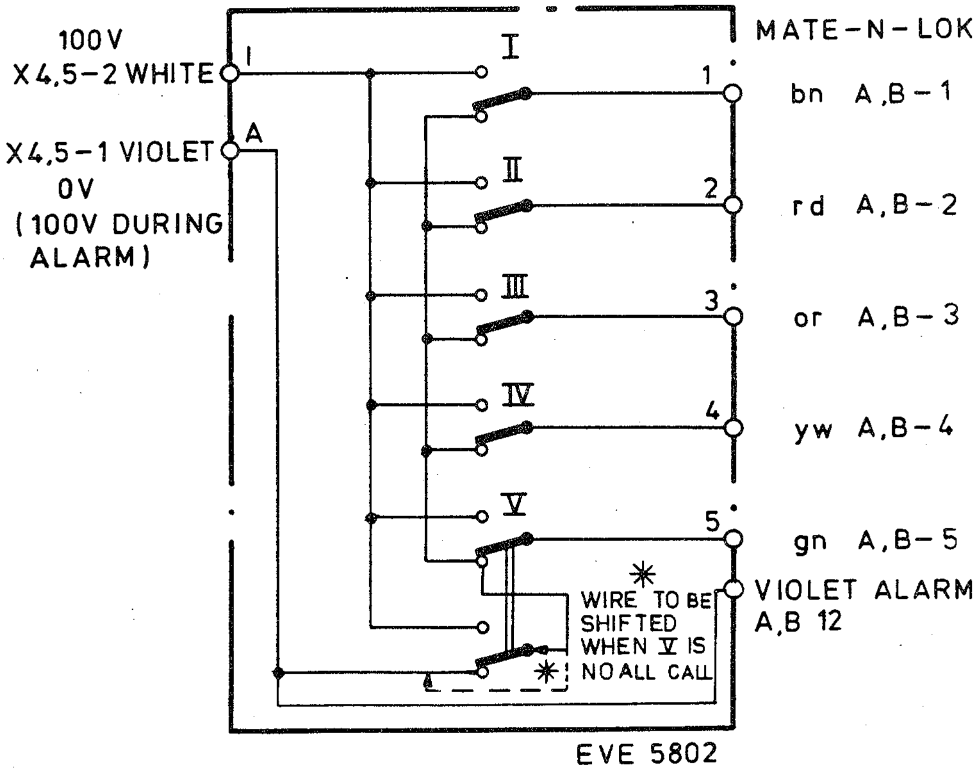
To avoid mistakes during installation, some colours in the wiring have been changed.

1. Alarm wire (to point 12 of Mate-N-Lok socket) has been changed from blue to violet.

2. Wires to main p.c.b. (connector X4 or X5):
   - Black has been changed to violet (point 1 of connector)
   - Blue has been changed to white (point 2 of connector)

This modification is valid from serial number 2026 onwards.

NOTE: The alarm wire in the active zone selector module LBB 1271/04 has also been changed from black to violet.


100V
X4,5-2 WHITE
I
X4,5-1 VIOLET
A
0V
(100V DURING ALARM)
MATE-N-LOK
I
II
III
IV
V
1
2
3
4
5
bn A,B-1
rd A,B-2
or A,B-3
yw A,B-4
gn A,B-5
VIOLET ALARM A,B 12
* WIRE TO BE SHIFTED WHEN V IS NO ALL CALL
*
EVE 5802

ELA SERVICE INFORMATION

PHILIPS

1982.09.02	LBB 9051/00	LBB 9052/00	Eb 849
Already published			

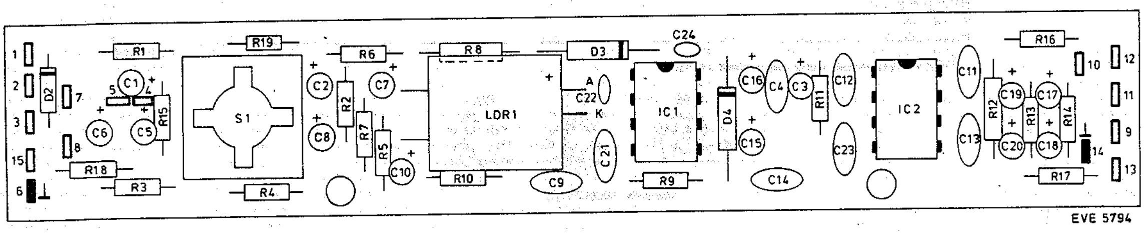
The sensitivity of the microphones LBB 9051/00 and LBB 9052/00 has been reduced by 10 dB by changing the pre-amplifier's p.c.b.
As this p.c.b. is also used for an other type of microphone, a solution is chosen to make it possible that the sensitivity can be easily adapted to the desired level for either type.

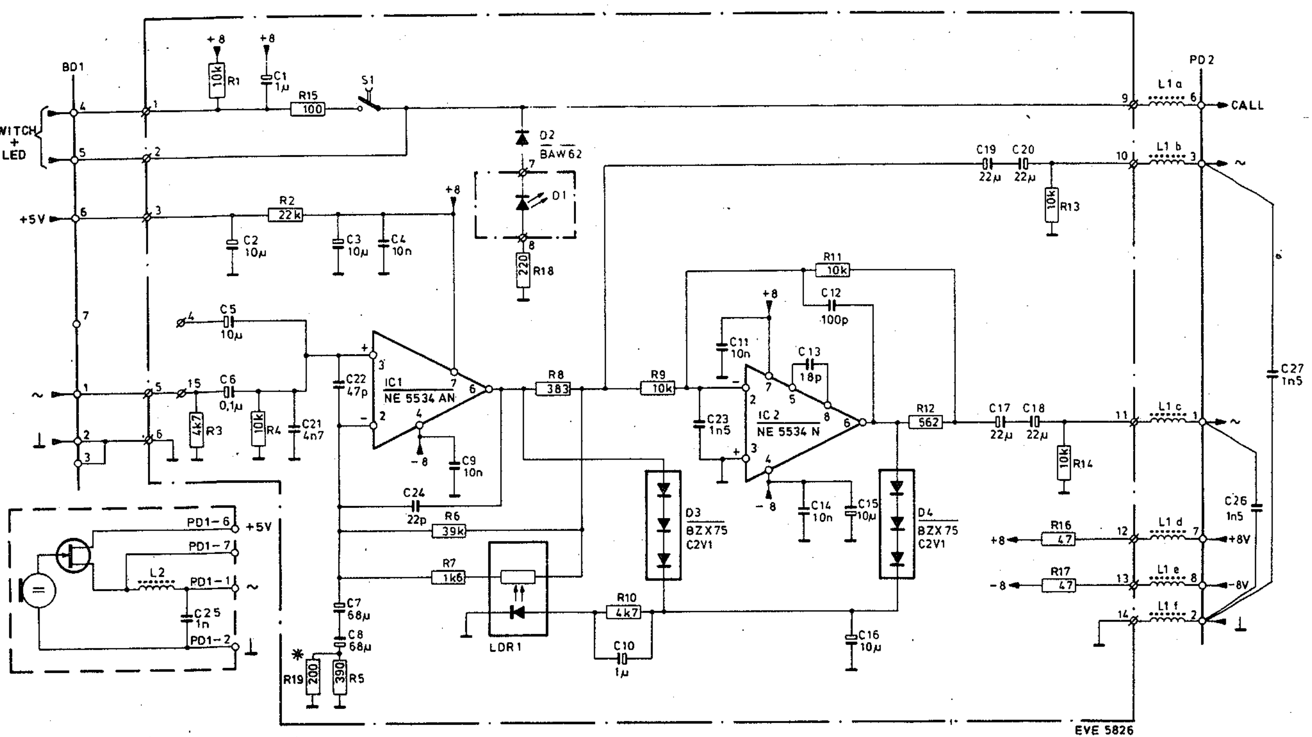
Resistor R5, with a value of 130E is replaced by a new resistor R5 with a value of 390E and a parallel resistor R19 with a value of 200E.

The total resistance of R5//R19 is 130E, which is used for the other type of microphone.

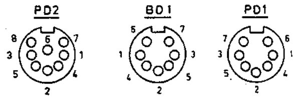
Application of this p.c.b. for use in LBB 9051/00 and LBB 9052/00 means that the resistor R19 is disconnected.

The limiting point of the amplifier is now only reached at a 10 dB higher sound pressure level.


1
2
3
15
6
7
8
5
4
D2
R1
C1
C6
C5
R15
R18
R3
R19
S1
R4
R6
C2
C7
C8
R2
R7
R5
C10
R8
LDR1
R10
C9
D3
C24
A
C22
K
C21
IC1
R9
D4
C16
C4
C3
C15
R11
C12
C23
C14
IC2
C11
C13
R12
C19
C20
R13
C17
C18
R14
R16
R17
10
12
11
9
14
13
EVE 5794


BD1
SWITCH + LED
+5V
~
⊥
R1 10k
+8
C1 1µ
R15 100
S1
D2 BAW62
D1
R18 220
R2 22k
C2 10µ
C3 10µ
C4 10n
C5 10µ
C6 0,1µ
R3 4k7
R4 10k
C21 4n7
C22 47p
IC1 NE 5534 AN
C9 10n
C24 22p
R6 39k
R7 1k6
LDR1
C7 68µ
C8 68µ
R19 200
R5 390
R8 383
R9 10k
C23 1n5
D3 BZX75 C2V1
R10 4k7
C10 1µ
R11 10k
C12 100p
C11 10n
C13 18p
IC2 NE 5534 N
C14 10n
C15 10µ
C16 10µ
D4 BZX75 C2V1
R12 562
C17 22µ
C18 22µ
R14 10k
C19 22µ
C20 22µ
R13 10k
PD2
L1a
L1b
L1c
L1d
L1e
L1f
CALL
+8V
-8V
C26 1n5
C27 1n5
R16 47
R17 47
+8
-8
L2
C25 1n
PD1-6
PD1-7
PD1-1
PD1-2
EVE 5826

*FOR LBB 9051 AND 9052 DISCONNECT R19



SEEN ON SOLDERSIDE

ELA SERVICE INFORMATION

PHILIPS

1981.09.07	SQ6	Eb 840
Already published		

Applicable to: LBB 1274/02

I Click suppression

To avoid switching noises on the L.F. output signal during reversal of the running direction of the tape by the tape transport mechanism, a click suppression circuit is included on the p.c.b. from serial number 1265 onwards.

II Timer indicator

From serial number 1980 onwards, a timer indicator has been included on the p.c.b. This timer makes it possible to check the total number of running hours, especially with repect to the guarantee period.
The operational life time of this timer indicator is 1000 hours, after which it has to be replaced.
The timer is available under service code number 5322 344 40072.

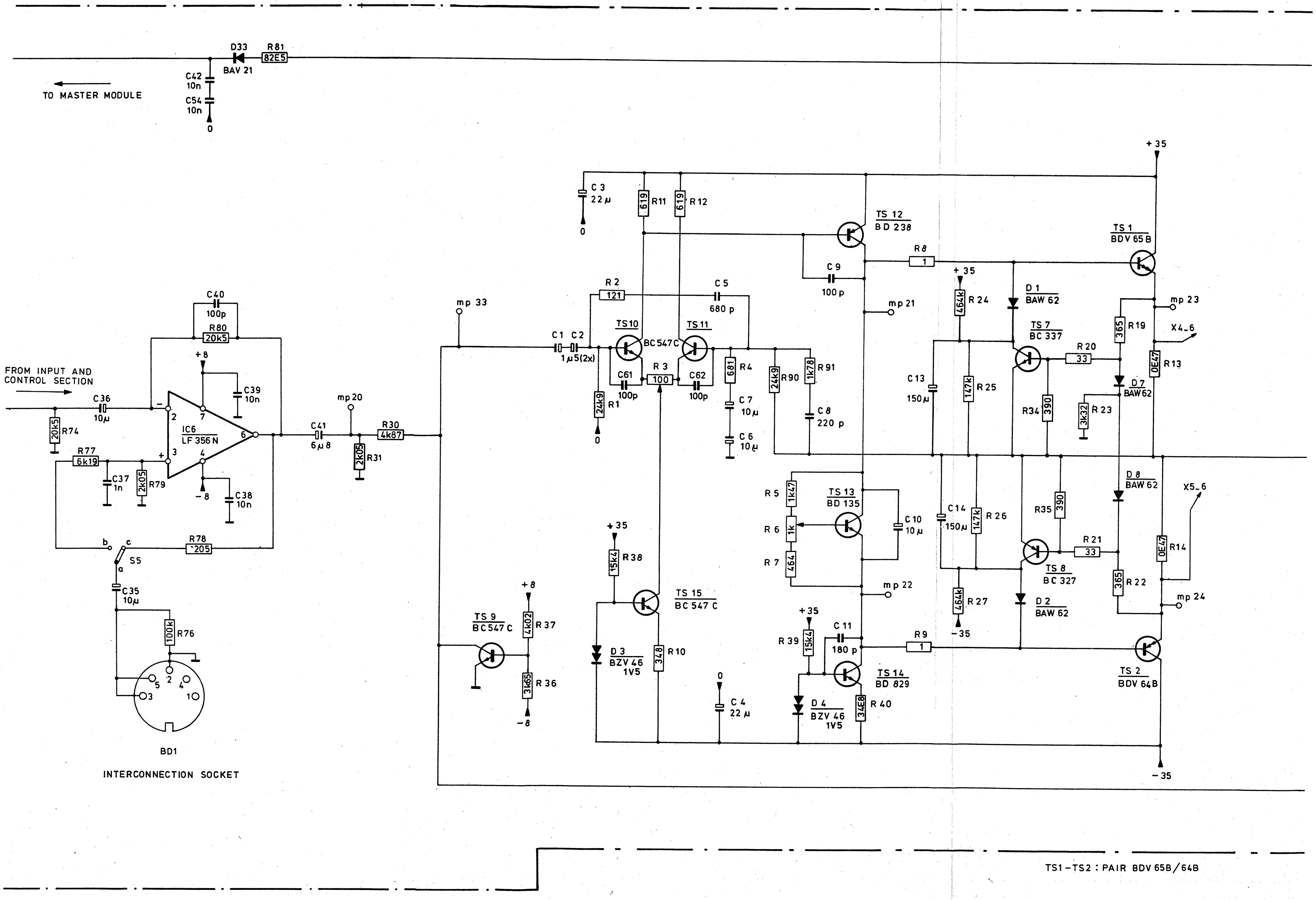
The revised circuit diagram and the p.c.b. lay-out, valid for both modifications are attached.
From serial number 1265 to serial number 1980 the revised p.c.b. is prepared for the timer circuit, but not fitted with the component.

III The service for all SQ6 modules is limited to "first line service" (remplace service).

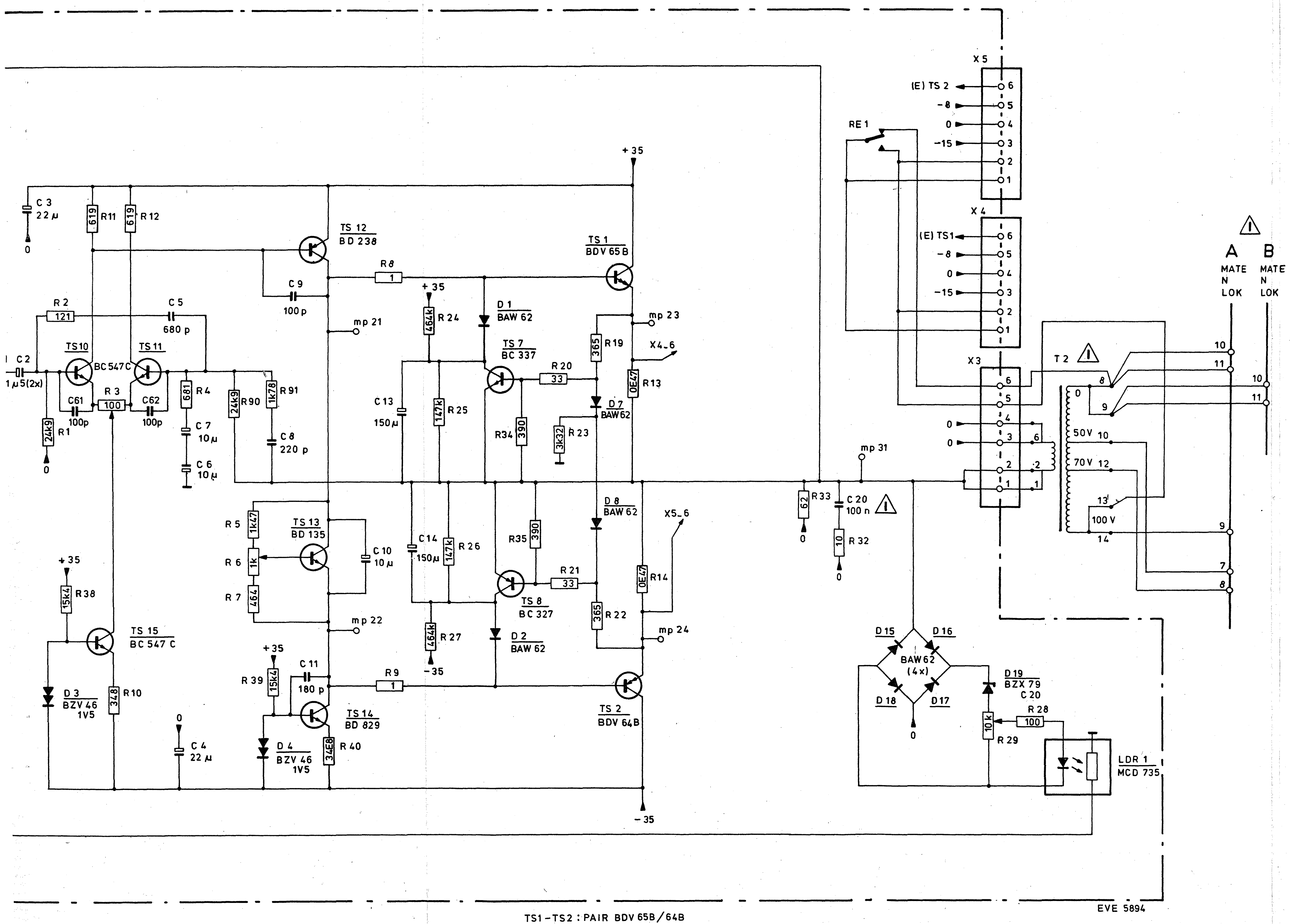
For the cassette player type LBB 1274/02, however, second line servicing is possible; the decision to start second line servicing has to be taken locally.

The tape transport mechanism, which is also used in one of the Philips car-cassette players, has the codenumber CG71B150 and a service document is available under codenumber 4822 725 13723.

The responsibility for service matters regarding the tape transport mechanism type CG71B150 is in the hands of the service department of the H.I.G. AUDIO.


D33
BAV 21
R81
82E5
C42
10n
C54
10n
0
TO MASTER MODULE
+35
C 3
22 µ
0
619
R11
619
R12
TS 12
BD 238
TS 1
BDV 65 B
R 8
1
C 9
100 p
+ 35
464k
R 24
D 1
BAW 62
mp 21
mp 23
R 2
121
C 5
680 p
TS10
BC 547C
TS 11
365
R 19
X4_6
TS 7
BC 337
C40
100p
R80
20k5
mp 33
C 1 C 2
1 µ 5(2x)
R 3
100
C61
100p
C62
100p
681
R 4
24k9
R90
1k78
R 91
R 20
33
0E47
R 13
C 13
150µ
147k
R 25
D 7
BAW62
+8
C39
10n
FROM INPUT AND CONTROL SECTION
C 36
10µ
IC6
LF 356 N
2
3
4
6
7
mp 20
C41
6 µ 8
R30
4k87
2k05
R31
24k9
R 1
0
C 7
10 µ
C 6
10 µ
C 8
220 p
R34
390
3k32
R 23
20k5
R74
R77
6k19
C37
1n
2k05
R79
−8
C38
10n
R 5
1k47
R 6
1k
R 7
464
TS 13
BD 135
C 10
10 µ
C 14
150µ
147k
R 26
R35
390
D 8
BAW 62
X5_6
b
c
a
S5
R78
205
C35
10µ
100k
R76
+ 35
15k4
R 38
TS 15
BC 547 C
TS 21
R 21
33
TS 8
BC 327
0E47
R 14
mp 22
464k
R 27
−35
D 2
BAW 62
365
R 22
mp 24
+ 8
TS 9
BC 547 C
4k02
R 37
3k65
R 36
− 8
D 3
BZV 46
1V5
3k8
R 10
0
C 4
22 µ
+35
15k4
R 39
C 11
180 p
R 9
1
TS 14
BD 829
D 4
BZV 46
1V5
34E8
R 40
TS 2
BDV 64B
5
2
4
3
1
BD1
INTERCONNECTION SOCKET
− 35

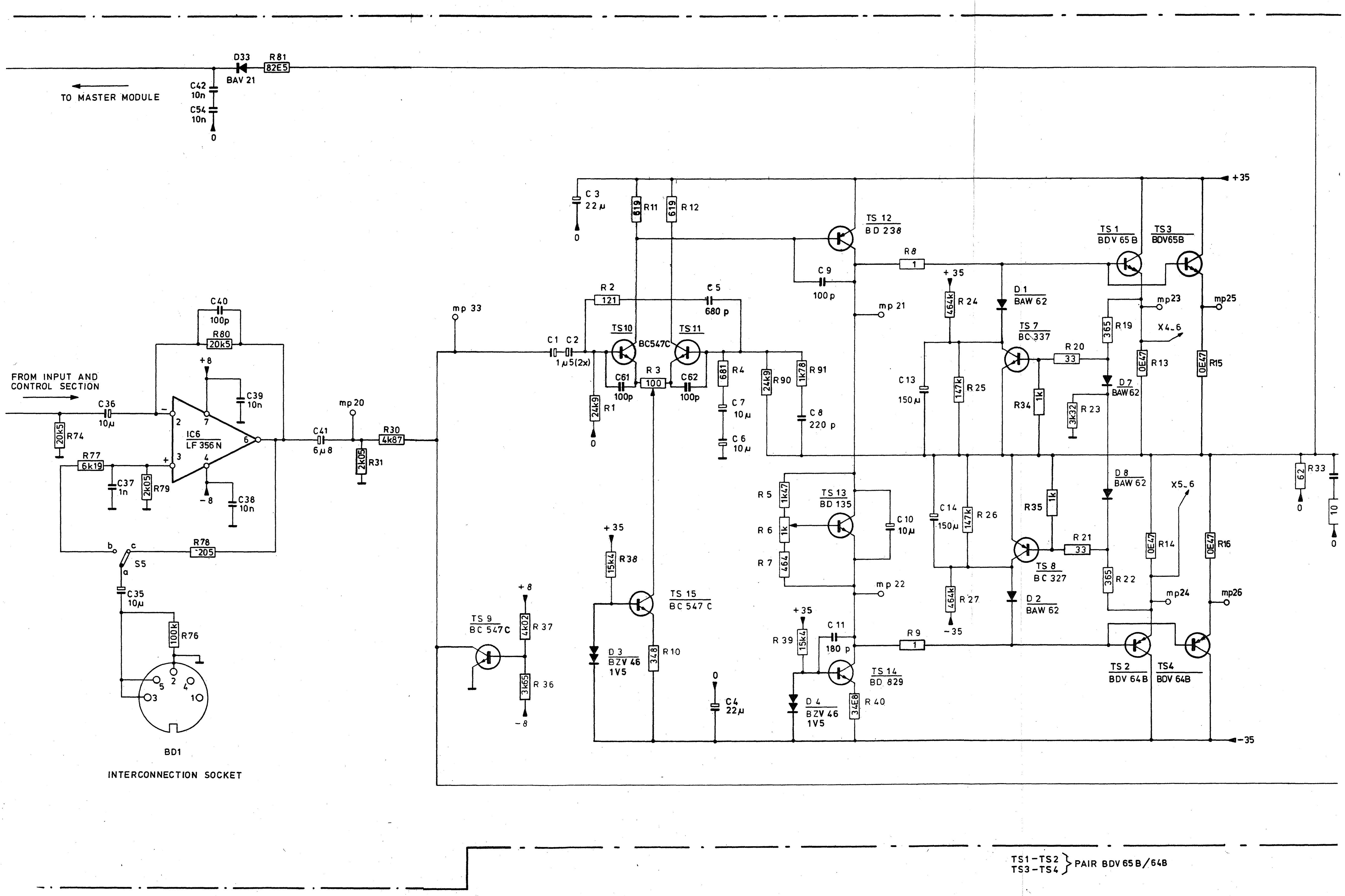
TS1 – TS2 : PAIR BDV 65B/64B


X 5
(E) TS 2
-8
0
-15
RE 1
X 4
(E) TS1
X 3
T 2
A
B
MATE N LOK
MATE N LOK
50V
70V
100 V
+35
-35
C 3 22 µ
R11 619
R12 619
TS 12 BD 238
TS 1 BDV 65 B
R 8 1
C 9 100 p
R 2 121
C 5 680 p
mp 21
mp 22
mp 23
mp 24
mp 31
X4_6
X5_6
C 2 1 µ 5 (2x)
TS10 BC 547C
TS 11
R 3 100
C61 100p
C62 100p
R1 24k9
R4 681
R90 24k9
R91 1k78
C 7 10 µ
C 6 10 µ
C 8 220 p
R 24 464k
D 1 BAW 62
TS 7 BC 337
R 20 33
R19 365
R13 0E47
D 7 BAW62
R 23 3k32
C 13 150 µ
R 25 147k
R34 390
R33 62
C 20 100 n
R 32 10
R 5 1k47
R 6 1k
R 7 464
TS 13 BD 135
C 10 10 µ
C 14 150 µ
R 26 147k
R35 390
TS 8 BC 327
R 21 33
D 8 BAW 62
R14 0E47
R 22 365
R 38 15k4
TS 15 BC 547 C
D 3 BZV 46 1V5
R10 348
C 4 22 µ
R 39 15k4
C 11 180 p
TS 14 BD 829
D 4 BZV 46 1V5
R 40 3E48
R 27 464k
D 2 BAW 62
R 9 1
TS 2 BDV 64B
D 15
D 16
D 17
D 18
BAW 62 (4x)
D 19 BZX 79 C 20
R 28 100
R 29 10 k
LDR 1 MCD 735

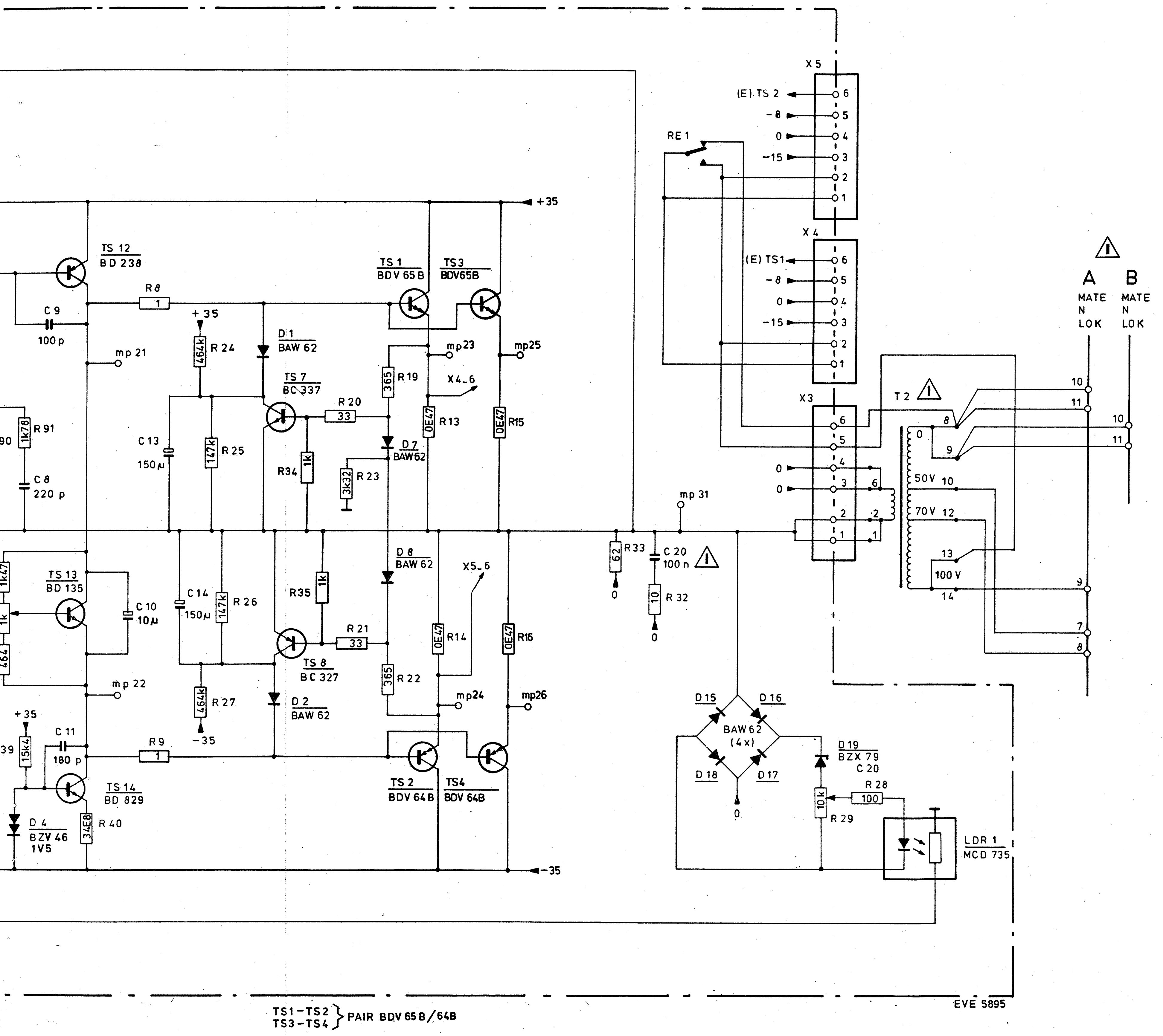
TS1-TS2 : PAIR BDV 65B/64B

EVE 5894

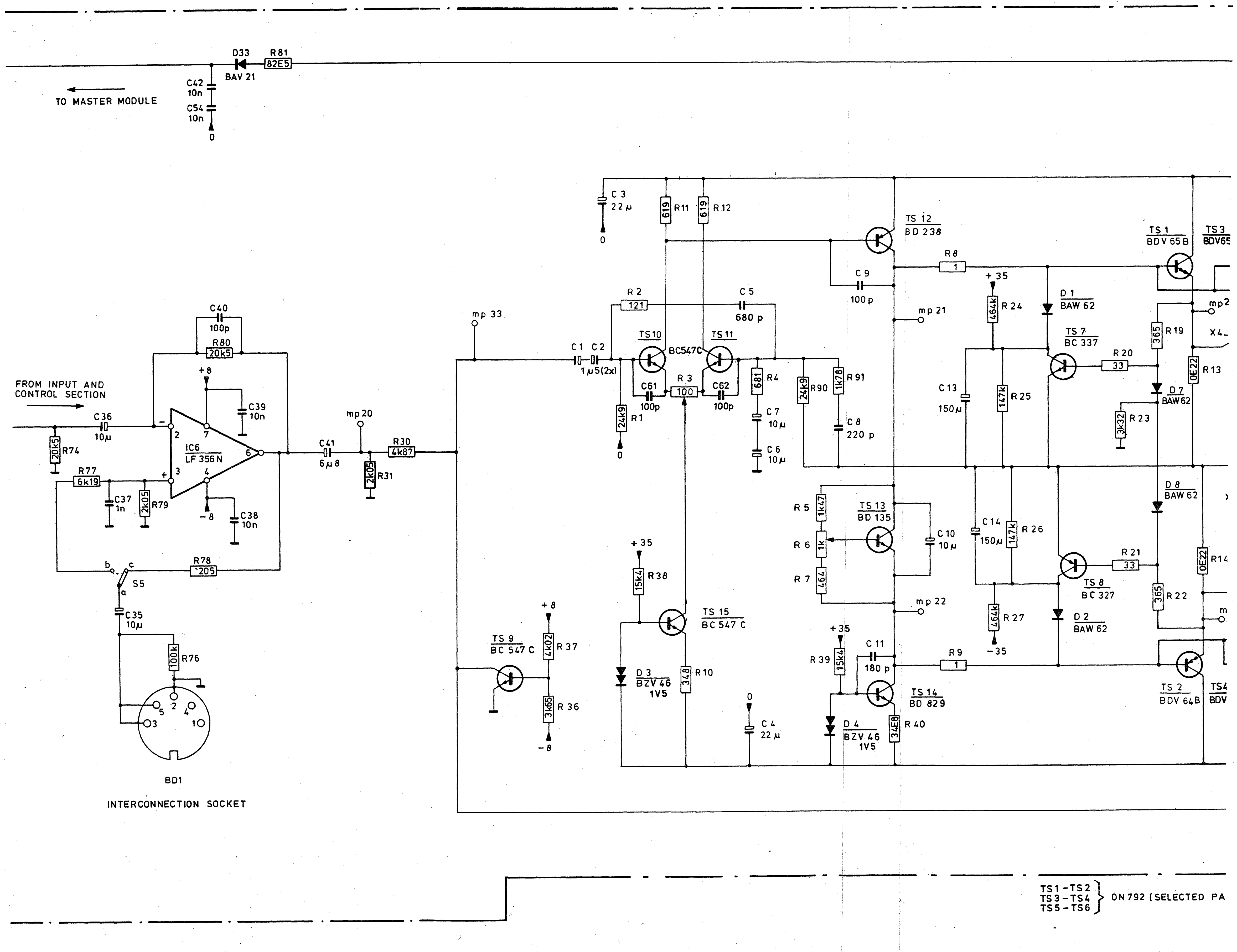
2.9.2 S.Q.6 POWER AMPLIFIER SECTION LBB 1262/00 (50 W)
(Transistor version)


D33
BAV 21
R81
82E5
C42
10n
C54
10n
0
TO MASTER MODULE
FROM INPUT AND CONTROL SECTION
C36
10µ
20k5
R74
C40
100p
R80
20k5
+8
C39
10n
IC6
LF 356 N
2
3
7
4
6
-8
C38
10n
R77
6k19
C37
1n
2k05
R79
C41
6µ8
mp 20
R30
4k87
2k05
R31
b
c
a
S5
R78
205
C35
10µ
100k
R76
5
2
4
3
1
BD1
INTERCONNECTION SOCKET
mp 33
C1
C2
1µ5(2x)
R2
121
C5
680 p
TS10
BC547C
TS11
C61
100p
R3
100
C62
100p
24k9
R1
0
C3
22µ
0
619
R11
619
R12
681
R4
C7
10µ
C6
10µ
24k9
R90
1k78
R91
C8
220 p
TS 12
BD 238
C9
100 p
mp 21
R8
1
+ 35
464k
R24
D1
BAW 62
TS 7
BC 337
R20
33
C13
150µ
147k
R25
R34
1k
3k32
R23
365
R19
D7
BAW 62
TS1
BDV 65 B
TS3
BDV65B
mp23
mp25
X4_6
0E47
R13
0E47
R15
+35
R5
1k47
R6
1k
R7
464
TS 13
BD 135
C10
10µ
mp 22
C14
150µ
147k
R26
R35
1k
R21
33
TS 8
BC 327
464k
R27
-35
D2
BAW 62
D8
BAW 62
365
R22
X5_6
0E47
R14
0E47
R16
mp24
mp26
62
R33
0
10
0
+35
15k4
R38
TS 15
BC 547 C
D3
BZV 46
1V5
348
R10
TS 9
BC 547C
+8
4k02
R37
3k65
R36
-8
0
C4
22µ
+35
15k4
R39
C11
180 p
TS 14
BD 829
D4
BZV 46
1V5
34E8
R40
R9
1
TS 2
BDV 64B
TS4
BDV 64B
-35

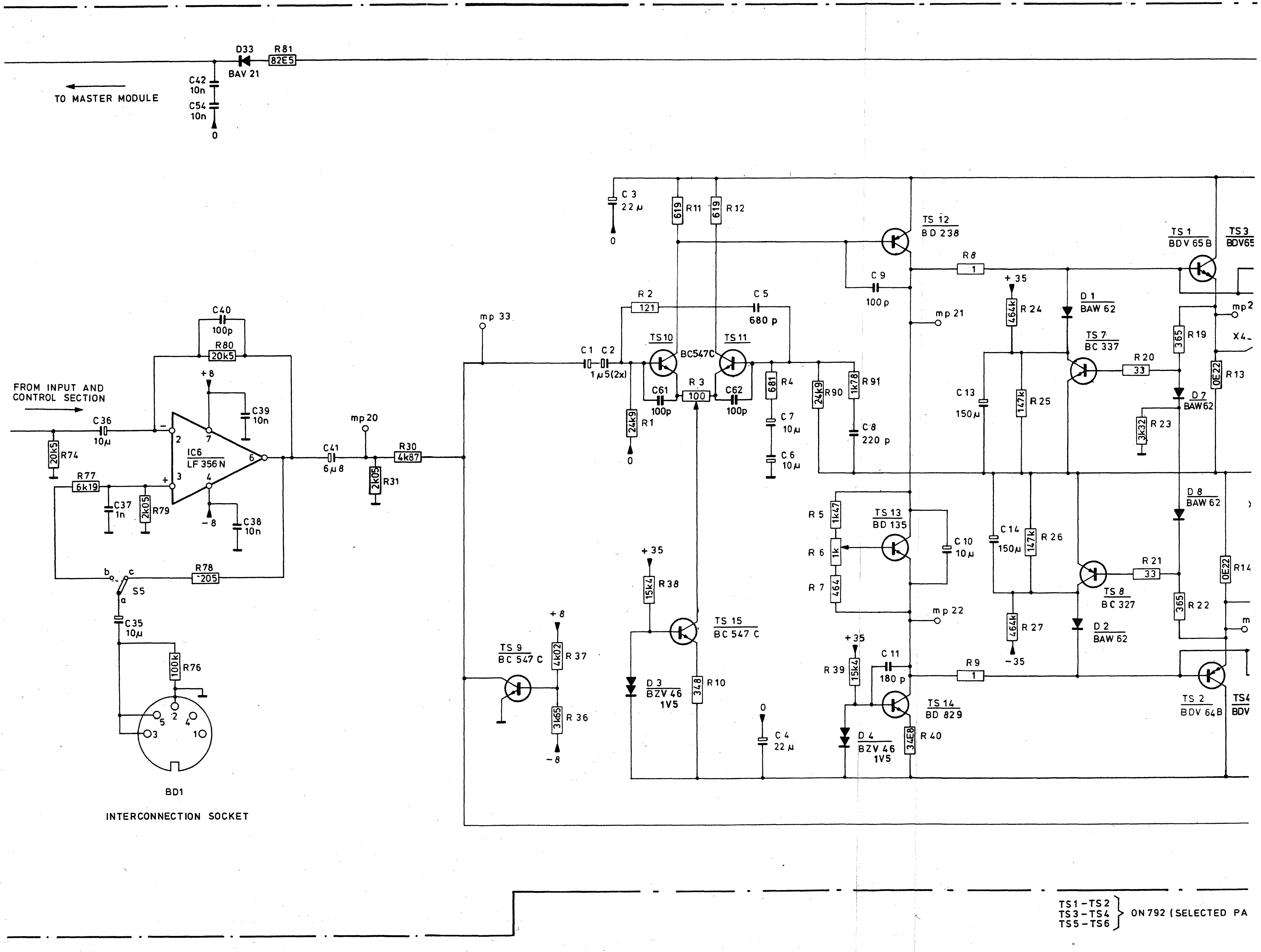
TS1-TS2 }
TS3-TS4 } PAIR BDV 65B/64B


X5
(E) TS 2
-8
0
-15
RE 1
X4
(E) TS1
X3
X4_6
X5_6
+35
-35
TS 12
BD 238
TS 1
BDV 65 B
TS3
BDV65B
R8
1
C 9
100 p
mp 21
R 24
464k
D 1
BAW 62
TS 7
BC 337
R 20
33
mp23
mp25
R 19
365
R 13
0E47
R15
R 91
1k78
C 13
150µ
R 25
147k
R34
1k
D 7
BAW62
R 23
3k32
C 8
220 p
mp 31
R 33
62
C 20
100 n
R 32
10
0
TS 13
BD 135
C 10
10µ
C 14
150µ
R 26
147k
R35
1k
D 8
BAW 62
R 14
0E47
R16
0E47
R 21
33
TS 8
BC 327
R 22
365
mp 22
R 27
464k
D 2
BAW 62
mp24
mp26
+35
C 11
180 p
15k4
R 9
1
TS 2
BDV 64B
TS4
BDV 64B
TS 14
BD 829
R 40
34E8
D 4
BZV 46
1V5
D 15
D 16
BAW 62
(4x)
D 18
D 17
D 19
BZX 79
C 20
R 28
100
R 29
10k
LDR 1
MCD 735
T 2
0
50V
70V
100 V
A
B
MATE
N
LOK
EVE 5895
TS1-TS2
TS3-TS4
PAIR BDV 65B/64B

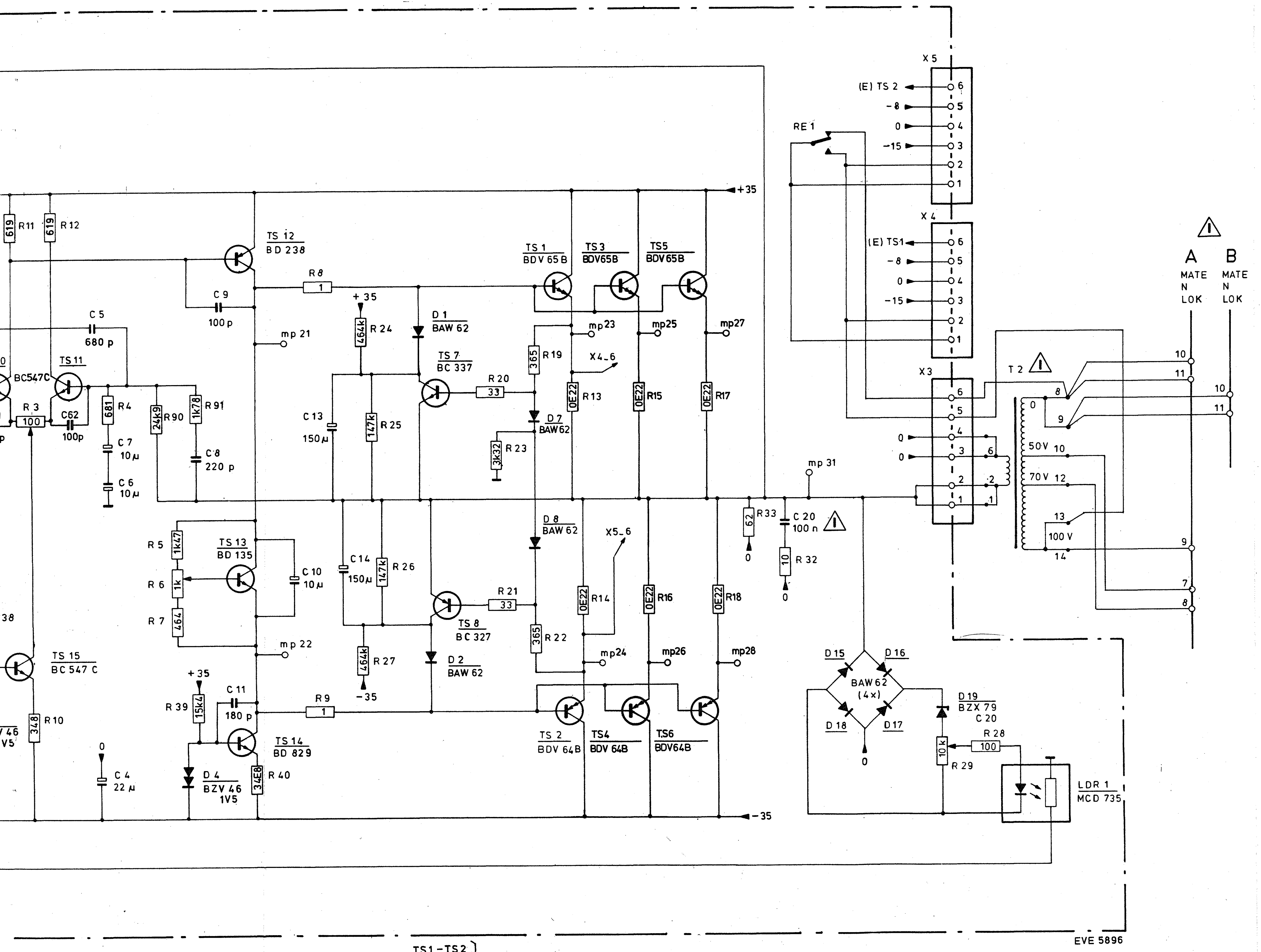
2.10.2 S.Q.6 POWER AMPLIFIER
SECTION LBB 1263/00 (100 W)
(Transistor version)


TO MASTER MODULE
D33
BAV 21
R81
82E5
C42
10n
C54
10n
0
FROM INPUT AND CONTROL SECTION
C36
10µ
R74
20k5
R77
6k19
C37
1n
R79
2k05
C40
100p
R80
20k5
+8
C39
10n
IC6
LF 356 N
-8
C38
10n
C41
6µ8
mp 20
R30
4k87
R31
2k05
R78
205
S5
a
b
c
C35
10µ
R76
100k
BD1
INTERCONNECTION SOCKET
mp 33
TS 9
BC 547 C
R 37
4k02
R 36
3k65
+8
-8
C 3
22 µ
R11
619
R 12
619
R 2
121
C 5
680 p
C 1
C 2
1 µ5(2x)
TS10
TS 11
BC547C
C61
100p
C62
100p
R 3
100
R 1
24k9
R4
681
C 7
10 µ
C 6
10 µ
R90
24k9
R 91
1k78
C 8
220 p
+35
R 38
15k4
TS 15
BC 547 C
D 3
BZV 46
1V5
R 10
348
C 4
22 µ
TS 12
BD 238
C 9
100 p
R 8
1
mp 21
R 5
1k47
R 6
1k
R 7
464
TS 13
BD 135
C 10
10 µ
mp 22
R 39
15k4
C 11
180 p
TS 14
BD 829
D 4
BZV 46
1V5
R 40
34E8
R 9
1
+ 35
R 24
464k
R 25
147k
C 13
150µ
C 14
150µ
R 26
147k
R 27
464k
-35
D 1
BAW 62
TS 7
BC 337
R 20
33
TS 8
BC 327
R 21
33
D 2
BAW 62
R 19
365
R 23
3k32
D 7
BAW62
D 8
BAW 62
R 22
365
R 13
0E22
R 14
0E22
TS 1
BDV 65 B
TS 3
BDV65
TS 2
BDV 64 B
TS4
BDV
mp2
X4
m

TS1 - TS2
TS3 - TS4
TS5 - TS6 } ON 792 (SELECTED PA

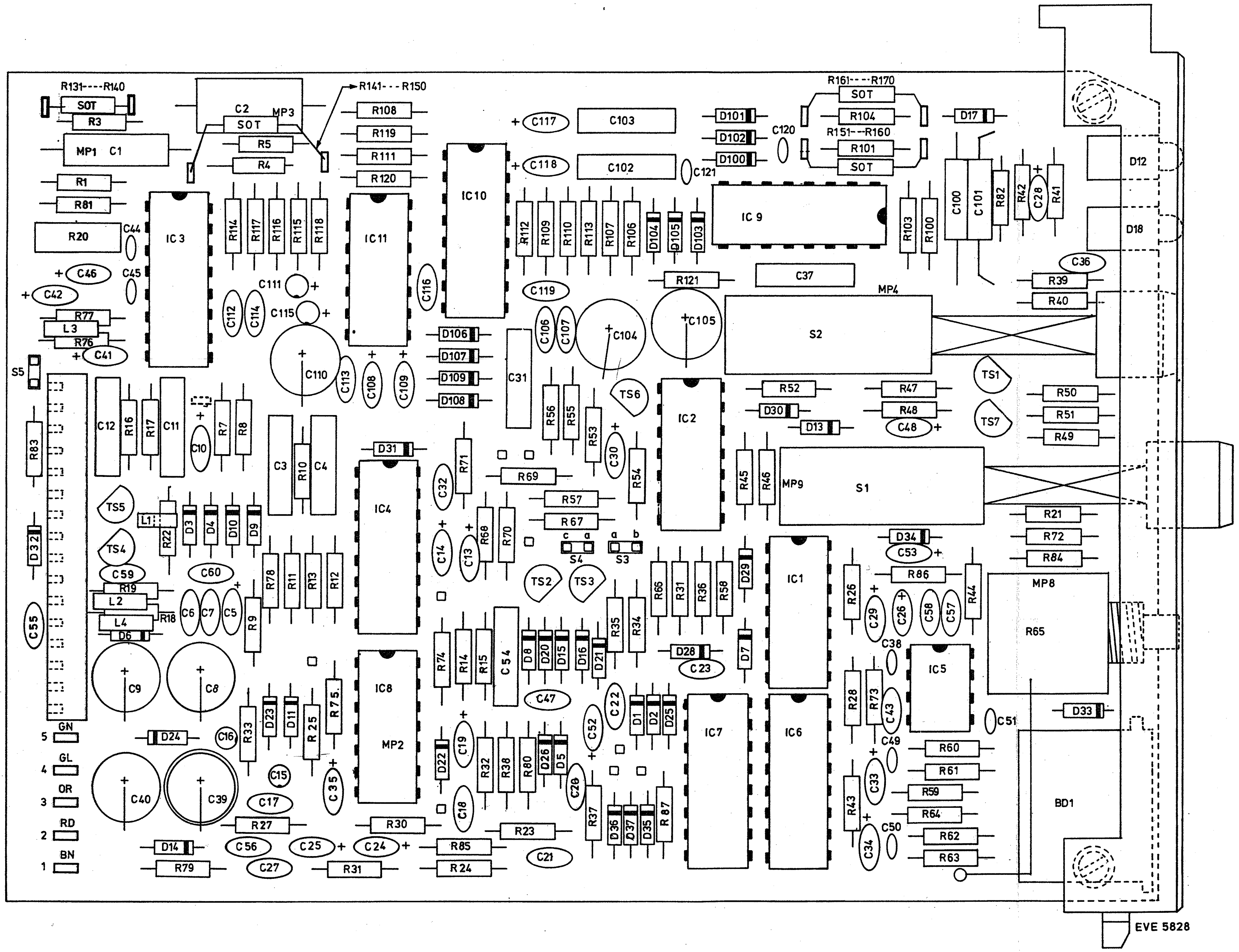

D33
BAV 21
R81
82E5
C42
10n
C54
10n
0
TO MASTER MODULE
FROM INPUT AND CONTROL SECTION
C36
10µ
R74
20k5
C40
100p
R80
20k5
+8
C39
10n
IC6
LF 356 N
-8
C38
10n
R77
6k19
C37
1n
R79
2k05
R78
205
S5
b
c
a
C35
10µ
R76
100k
BD1
INTERCONNECTION SOCKET
mp 20
C41
6µ8
R30
4k87
R31
2k05
mp 33
C1
C2
1µ5(2x)
C3
22µ
R11
619
R12
619
R2
121
C5
680 p
TS10
TS11
BC547C
R1
24k9
C61
100p
R3
100
C62
100p
R4
681
C7
10µ
C6
10µ
R90
24k9
R91
1k78
C8
220 p
TS12
BD 238
C9
100 p
mp 21
R8
1
+35
R24
464k
D1
BAW 62
TS7
BC 337
R20
33
C13
150µ
R25
147k
R23
3k32
R19
365
D7
BAW62
R13
0E22
TS1
BDV 65 B
TS3
BDV65
mp2
X4
R5
1k47
R6
1k
R7
464
TS13
BD 135
C10
10µ
C14
150µ
R26
147k
R21
33
TS8
BC 327
D8
BAW 62
R14
0E22
R22
365
mp 22
R27
464k
-35
D2
BAW 62
R9
1
TS2
BDV 64B
TS4
BDV
+35
R38
15k4
TS15
BC 547 C
D3
BZV 46
1V5
R10
348
TS9
BC 547 C
+8
R37
4k02
R36
3k65
-8
0
C4
22µ
R39
15k4
C11
180 p
TS14
BD 829
D4
BZV 46
1V5
R40
34E8
m

TS1-TS2
TS3-TS4 } ON792 (SELECTED PA
TS5-TS6

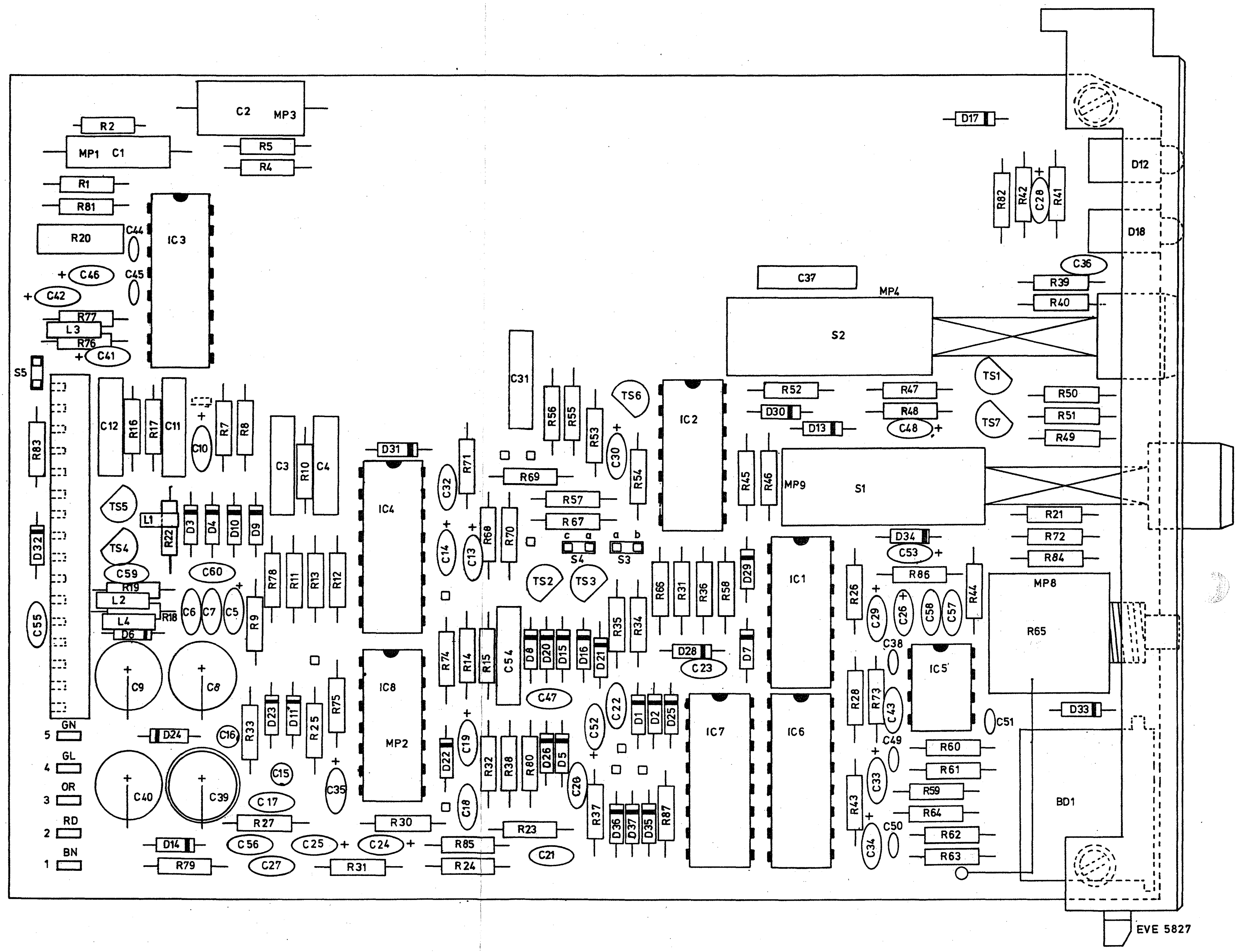

X 5
(E) TS 2
-8
0
-15
6
5
4
3
2
1
RE 1
X 4
(E) TS1
X 3
+35
-35
TS 12
BD 238
R 11
619
R 12
C 9
100 p
R 8
C 5
680 p
TS 11
BC547C
R 3
100
C62
100p
R4
681
R 90
24k9
R 91
1k78
C 7
10 µ
C 6
C 8
220 p
mp 21
R 24
464k
D 1
BAW 62
TS 7
BC 337
R 20
33
R 19
365
C 13
150 µ
R 25
147k
D 7
BAW62
R 23
3k32
TS 1
BDV 65 B
TS 3
BDV65B
TS5
BDV65B
mp23
mp25
mp27
X4_6
R 13
0E22
R15
R17
mp 31
R 33
62
C 20
100 n
R 32
10
0
R 5
1k47
TS 13
BD 135
C 10
10 µ
R 6
1k
R 7
464
mp 22
C 14
150 µ
R 26
R 27
D 8
BAW 62
X5_6
R 21
TS 8
BC 327
R 22
R14
R16
R18
D 2
mp24
mp26
mp28
TS 15
BC 547 C
R 10
348
C 4
22 µ
R 39
15k4
C 11
180 p
R 9
TS 14
BD 829
R 40
34E8
D 4
BZV 46
1V5
TS 2
BDV 64B
TS4
BDV 64B
TS6
BDV64B
D 15
D 16
BAW 62
(4x)
D 18
D 17
D 19
BZX 79
C 20
R 28
R 29
10 k
LDR 1
MCD 735
T 2
50V
70V
100 V
A
B
MATE N LOK
EVE 5896

TS1–TS2
TS3–TS4 } ON 792 (SELECTED PAIR BDV 65B/64B)
TS5–TS6

2.11.2 S.Q.6 POWER AMPLIFIER SECTION LBB 1264/00 (200 W)
(Transistor version)

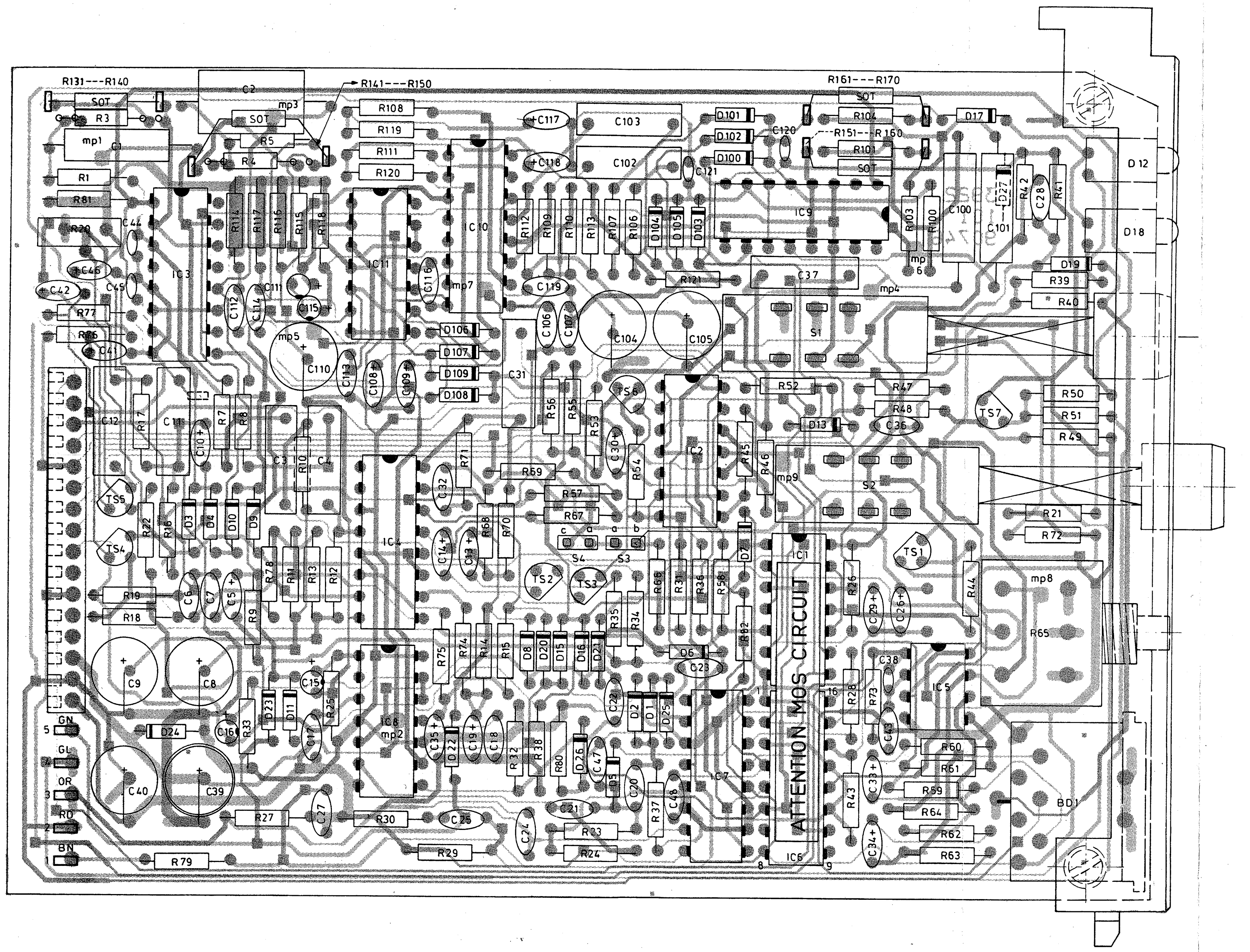

R131---R140
SOT
R3
C2
MP3
SOT
R141---R150
R108
R119
R111
R120
R5
R4
MP1 C1
R1
R81
R20
C44
IC 3
R114
R117
R116
R115
R118
IC 11
C116
IC10
C117
C118
C103
C102
C121
D101
D102
D100
C120
R161---R170
SOT
R104
R151--R160
R101
SOT
D17
IC 9
R112
R109
R110
R113
R107
R106
D104
D105
D103
R103
R100
C100
C101
R82
R42
C28
R41
D12
D18
C36
R39
R40
C46
C45
C42
C111
C115
C112
C114
C110
C113
C108
C109
R77
L 3
R76
C41
S5
D106
D107
D109
D108
C119
C31
C106
C107
C104
R121
C105
C37
MP4
S2
TS1
TS7
R52
R47
R48
C48
D30
D13
R50
R51
R49
TS6
R56
R55
R53
C30
R54
IC 2
R45
R46
MP9
S1
R83
C12
R16
R17
C11
C10
R7
R8
C3
R10
C4
D31
IC4
R71
C32
R69
R57
R67
S4
c a
S3
a b
TS5
L1
R22
D3
D4
D10
D9
TS4
D32
C59
C60
R19
L2
R18
C6
C7
C5
R9
L4
D6
C55
R78
R11
R13
R12
C14
C13
R68
R70
TS2
TS3
R66
R31
R36
R58
D29
IC1
D34
C53
R86
R21
R72
R84
MP8
R65
C9
C8
R33
D23
D11
R25
R75
IC8
MP2
R74
R14
R15
C54
D8
D20
D15
D16
D21
R35
R34
D28
C23
D7
R26
C29
C26
C58
C57
R44
C38
IC5
C47
C22
C52
D1
D2
D25
IC7
IC6
R28
R73
C43
C51
D33
5 GN
4 GL
3 OR
2 RD
1 BN
D24
C16
C15
C40
C39
C17
C35
D22
C19
R32
R38
R80
D26
D5
C20
R37
D36
D37
D35
R87
C49
R60
R61
R59
R64
R62
R63
C33
R43
C50
C34
BD1
C18
R27
R30
R23
R85
R24
C21
D14
C56
C25
C24
R79
C27
R31
EVE 5828

4.7.1 P.C.B. LAY-OUT LBB 1271/03

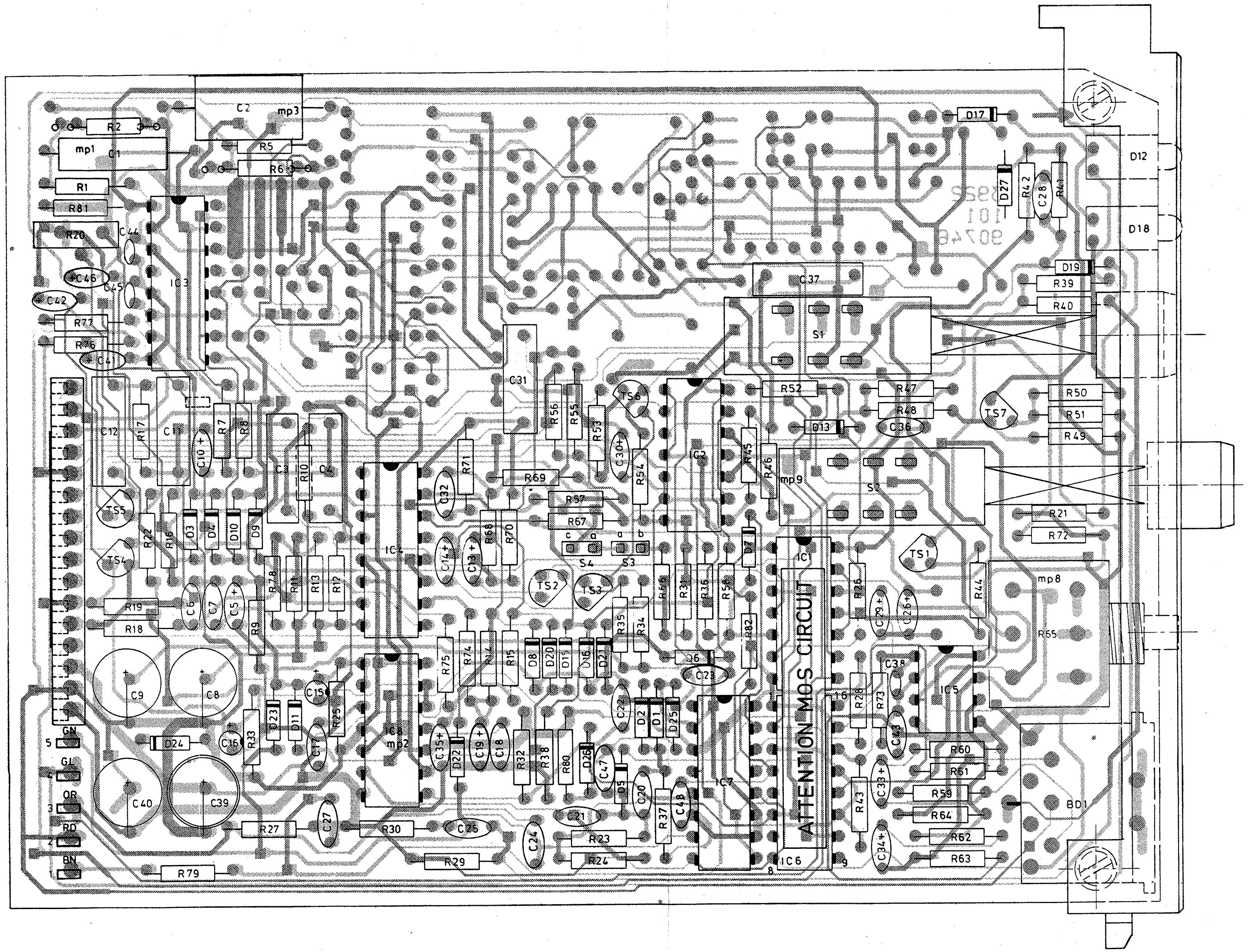

C2 MP3
R2
MP1 C1
R5
R4
R1
R81
R20
C44
IC3
C46
C45
C42
R77
L3
R76
C41
S5
D17
D12
D18
R82
R42
C28
R41
C36
R39
R40
C37
MP4
S2
TS1
TS7
R50
R51
R49
R52
R47
D30
R48
D13
C48
C31
TS6
R56
R55
R53
C30
R54
IC2
R45
R46
MP9
S1
R21
R72
R84
D34
C53
R86
MP8
R65
R44
R83
C12
R16
R17
C11
C10
R7
R8
C3
R10
C4
D31
IC4
R71
C32
R69
R57
R67
c a
a b
S4
S3
TS2
TS3
R68
R70
C14
C13
TS5
L1
R22
D3
D4
D10
D9
TS4
D32
C59
C60
R19
L2
R18
L4
C6
C7
C5
R9
R78
R11
R13
R12
D6
C55
C9
C8
IC8
MP2
R66
R31
R36
R58
D29
IC1
R26
C29
C26
C58
C57
R35
R34
R74
R14
R15
C54
D8
D20
D15
D16
D21
D28
C23
D7
C38
IC5
R28
R73
C43
C51
D33
C47
C22
D1
D2
D25
IC7
IC6
C49
R60
R61
R59
R64
R62
R63
BD1
GN
GL
OR
RD
BN
5
4
3
2
1
D24
C16
R33
D23
D11
R25
R75
C52
C19
D22
R32
R38
R80
D26
D5
C20
R37
D36
D37
D35
R87
C33
R43
C50
C34
C40
C39
C15
C17
C35
R27
R30
R23
C18
D14
C56
C25
C24
R85
C21
R79
C27
R31
R24
EVE 5827

4.7.2 P.C.B. LAY-OUT LBB 1271/02

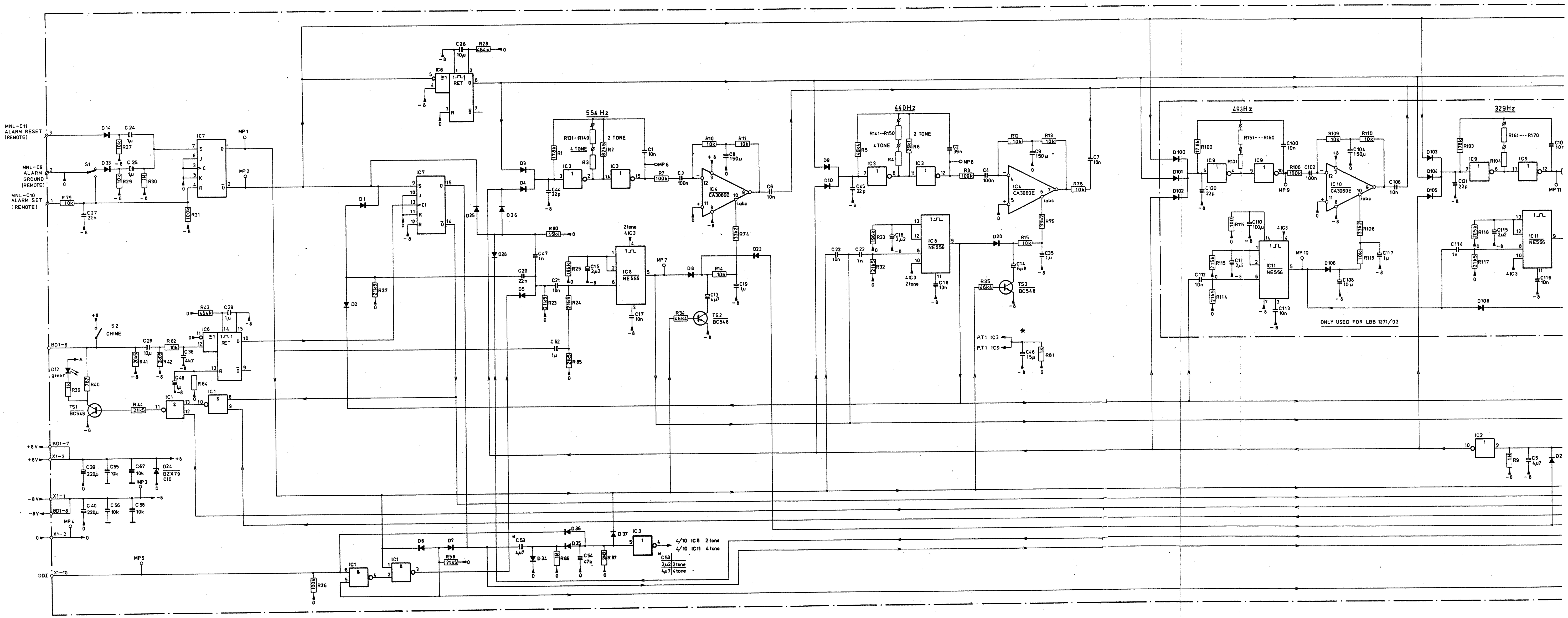
4.7.1 P.C.B. LAY-OUT LBB 1271/03


R131---R140
R141---R150
R161---R170
R151---R160
SOT
mp1
mp2
mp3
mp4
mp5
mp7
mp8
mp9
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
ATTENTION MOS CIRCUIT
TS1
TS2
TS3
TS4
TS5
TS6
TS7
S1
S2
S3
S4
D12
D18
BD1
C9
C8
C40
C39
C104
C105
C103
C102
GN
GL
OR
RD
BN
5
4
3
2
1

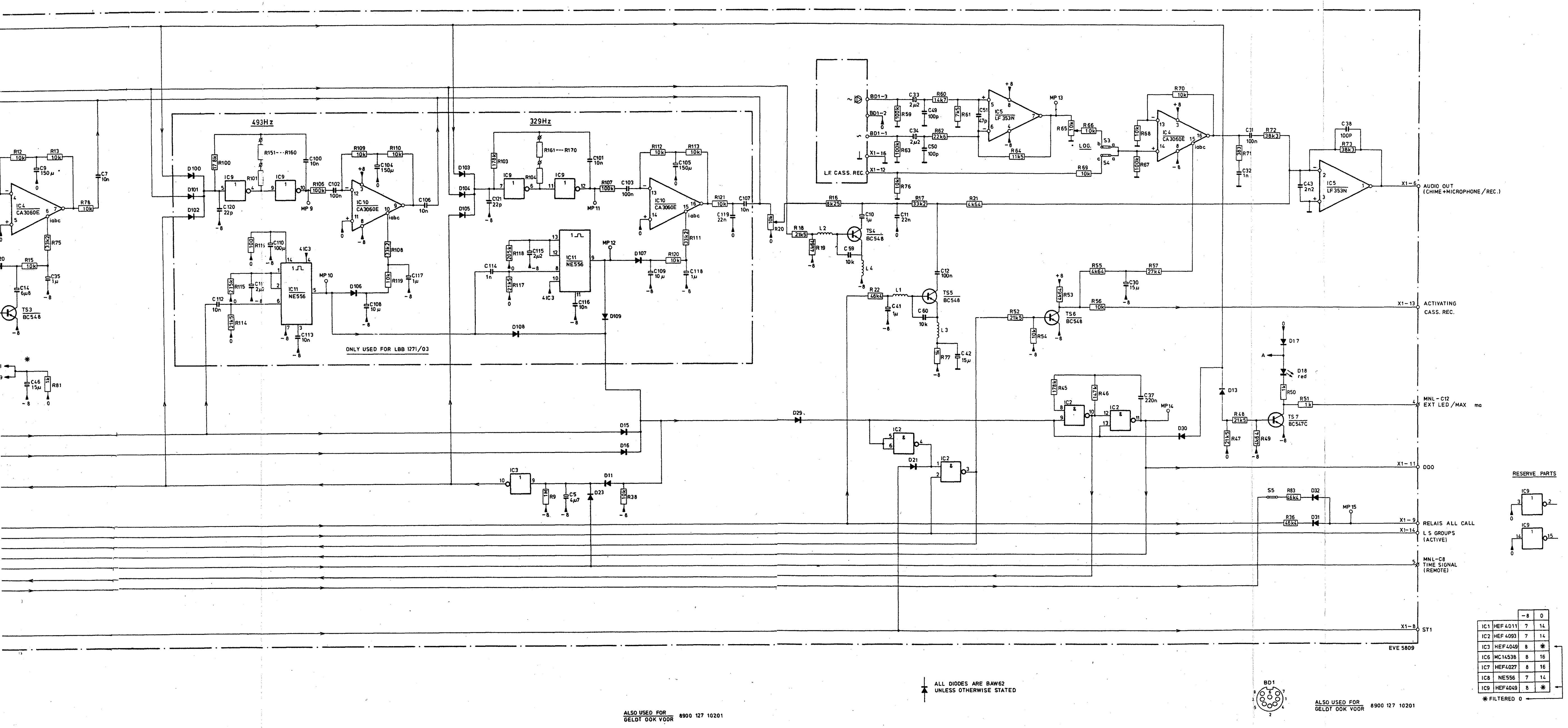
4.7.2 PCB LAYOUT LBB 1271/02


ATTENTION MOS CIRCUIT
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
S1
S2
S3
S4
TS1
TS2
TS3
TS4
TS5
TS6
TS7
BD1
mp1
mp2
mp3
mp8
mp9
C9
C8
C40
C39
D12
D18
GN
GL
OR
RD
BN
5
4
3
2
1

EVE 5827


MNL-C11 ALARM RESET (REMOTE)
MNL-C9 ALARM GROUND (REMOTE)
MNL-C10 ALARM SET (REMOTE)
S1
S2 CHIME
D12 green
TS1 BC546
TS2 BC548
TS3 BC548
+8V
-8V
BD1-6
BD1-7
BD1-8
X1-1
X1-2
X1-3
X1-10
DDI
MP1
MP2
MP3
MP4
MP5
MP6
MP7
MP8
MP9
MP10
MP11
D24 BZX79 C10
IC6
IC7
IC1
IC3
IC8 NE556
IC4 CA3060E
IC10 CA3060E
IC11 NE556
IC9
554 Hz
440Hz
493Hz
329Hz
R131---R140
R141---R150
R151---R160
R161---R170
2 TONE
4 TONE
2tone
4tone
4/10 IC8 2 tone
4/10 IC11 4 tone
C53 2µ2 2tone
4µ7 4tone
P.T1 IC3
P.T1 IC9
ONLY USED FOR LBB 1271/03

ALSO USED FOR 8900 127 10201
GELDT OOK VOOR


493Hz
329Hz
ONLY USED FOR LBB 1271/03
IC10 CA3060E
IC11 NE556
IC4 CA3060E
IC5 LF353N
TS3 BC548
TS4 BC548
TS5 BC548
TS6 BC548
TS7 BC547C
L.F. CASS. REC.
BD1-3
BD1-2
BD1-1
X1-16
X1-12
LOG.
X1-6 AUDIO OUT (CHIME+MICROPHONE/REC.)
X1-13 ACTIVATING CASS. REC.
4 MNL-C12 EXT LED/MAX ma
X1-11 DDO
X1-9 RELAIS ALL CALL
X1-14 L S GROUPS (ACTIVE)
5 MNL-C8 TIME SIGNAL (REMOTE)
X1-8 ST1
EVE 5809
RESERVE PARTS
D18 red
ALL DIODES ARE BAW62 UNLESS OTHERWISE STATED
ALSO USED FOR GELDT OOK VOOR 8900 127 10201
BD1
ALSO USED FOR GELDT OOK VOOR 8900 127 10201

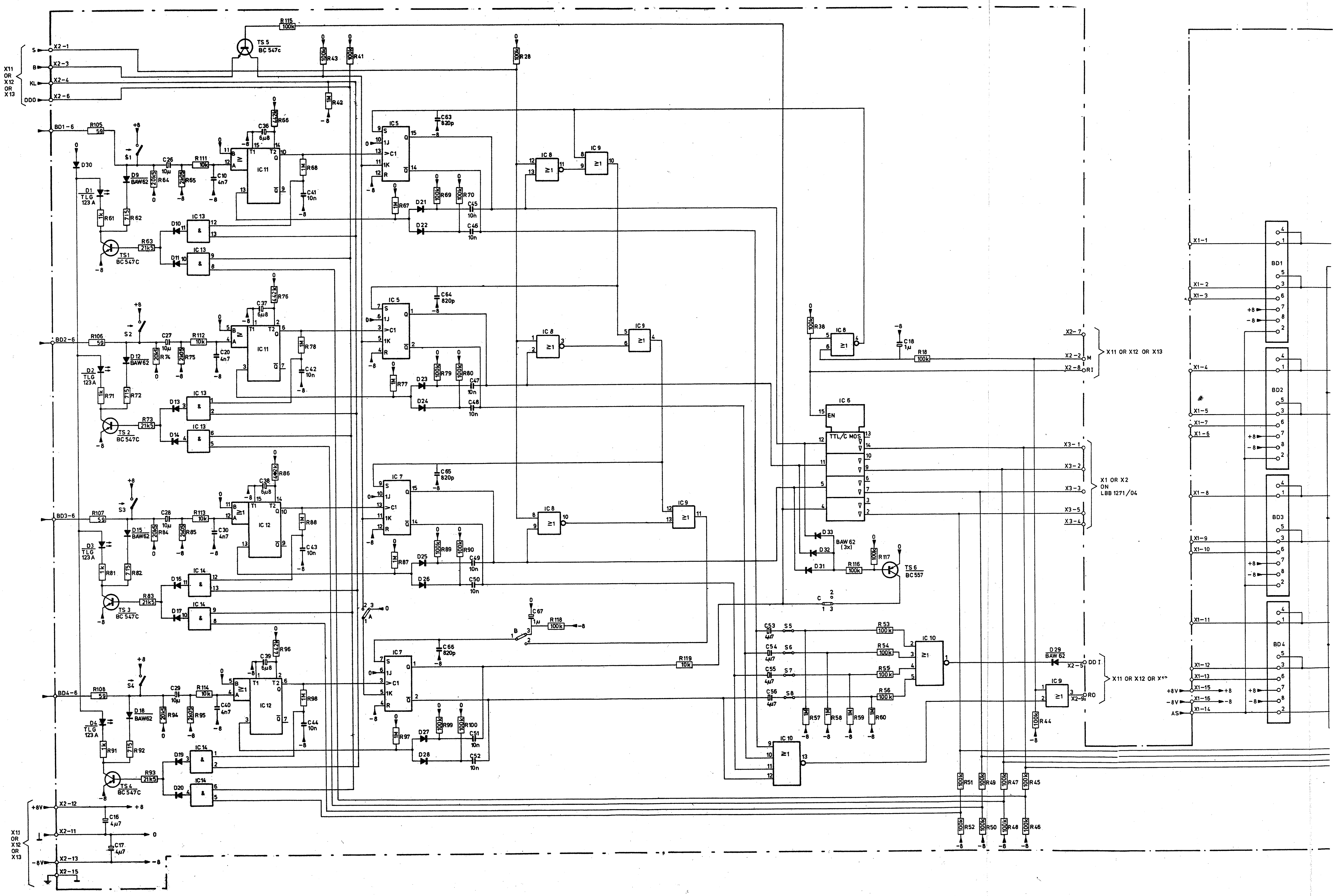
		-8	0
IC1	HEF 4011	7	14
IC2	HEF 4093	7	14
IC3	HEF4049	8	✱
IC6	MC14538	8	16
IC7	HEF4027	8	16
IC8	NE556	7	14
IC9	HEF4049	8	✱

✱ FILTERED 0

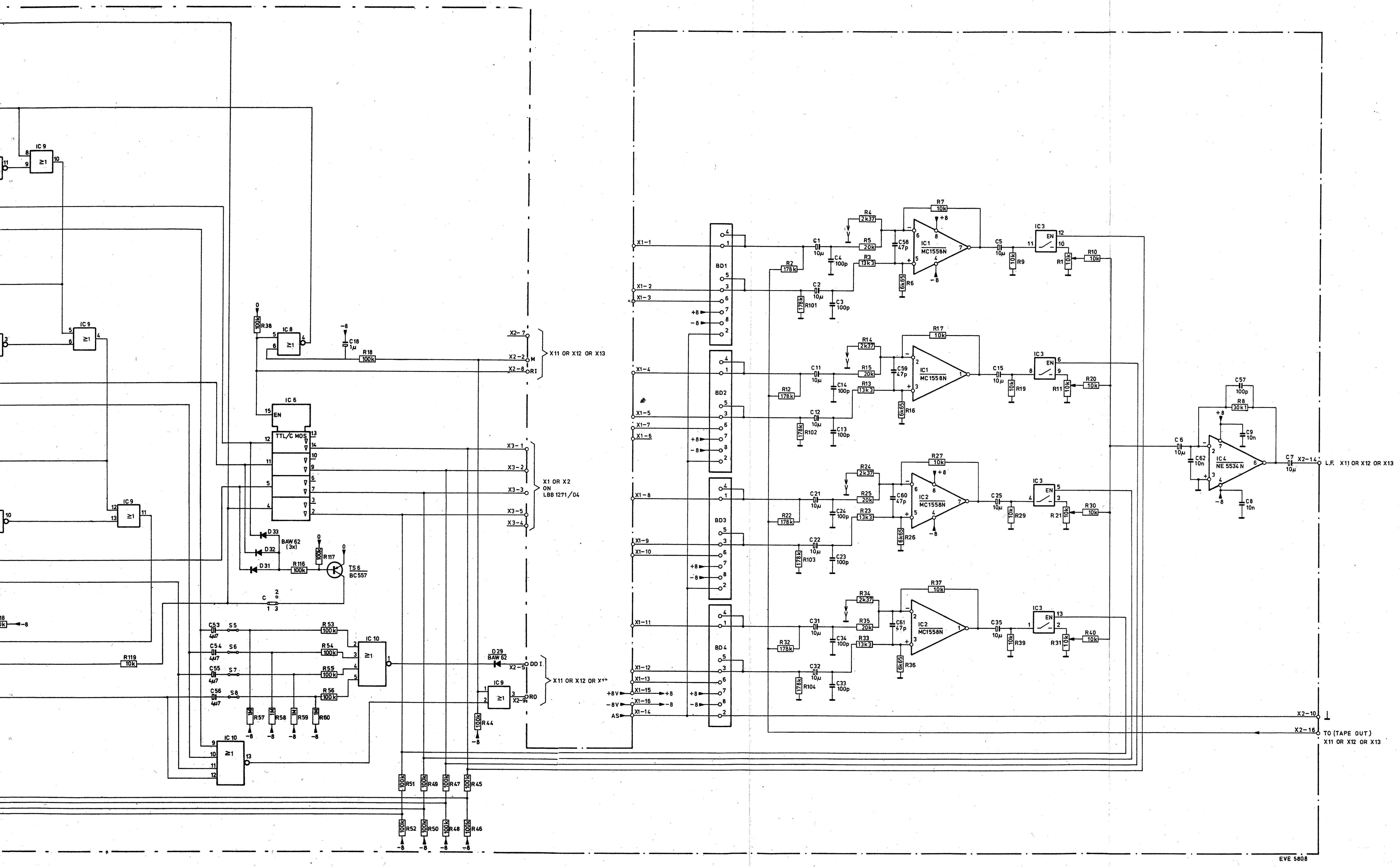
4.8 CHIME-ALARM-INPUT MODULE
LBB 1271/02 - LBB 1271/03

SQ6

4 channel universal input



S
B
KL
DDO
X2-1
X2-3
X2-4
X2-6
X11 OR X12 OR X13
R115 100k
TS 5 BC 547c
R43 100k
R41 100k
R28 100k
R42 1M
BD1-6
R105 59
S1
D30
D9 BAW62
D1 TLG 123 A
R61 1k
R62 715
R63 21k5
TS1 BC 547C
C26 10µ
R111 10k
R64 20k5
R65 2k05
C10 4n7
C36 6µ8
R66 442k
IC 11
R68 1M
C41 10n
IC 13
D10
D11
IC 5
C63 820p
R67 1M
D21
D22
R69 100k
R70 100k
C45 10n
C46 10n
IC 8
IC 9
BD2-6
R106 59
S2
C27 10µ
R112 10k
R74 20k5
R75 2k05
C20 4n7
D12 BAW62
D2 TLG 123 A
R71 1k
R72 715
R73 21k5
TS 2 BC 547C
C37 6µ8
R76 442k
R78 1M
C42 10n
D13
D14
C64 820p
R77 1M
D23
D24
R79 100k
R80 100k
C47 10n
C48 10n
BD3-6
R107 59
S3
C28 10µ
R113 10k
R84 20k5
R85 2k05
C30 4n7
D15 BAW62
D3 TLG 123 A
R81 1k
R82 715
R83 21k5
TS 3 BC 547C
C38 6µ8
R86 442k
IC 12
R88 1M
C43 10n
IC 14
D16
D17
IC 7
C65 820p
R87 1M
D25
D26
R89 100k
R90 100k
C49 10n
C50 10n
BD4-6
R108 59
S4
C29 10µ
R114 10k
R94 20k5
R95 2k05
C40 4n7
D18 BAW62
D4 TLG 123 A
R91 1k
R92 715
R93 21k5
TS 4 BC 547C
C39 6µ8
R96 442k
R98 1M
C44 10n
D19
D20
C66 820p
R97 1M
D27
D28
R99 100k
R100 100k
C51 10n
C52 10n
C67 1µ
R118 100k
R119 10k
A
B
C
R38 100k
C18 1µ
R18 100k
IC 6
EN
TTL/C MOS
D33
D32
D31
BAW 62 (3x)
R116 100k
R117 100k
TS 6 BC557
C53 4µ7
C54 4µ7
C55 4µ7
C56 4µ7
S5
S6
S7
S8
R53 100k
R54 100k
R55 100k
R56 100k
R57 1M
R58 1M
R59 1M
R60 1M
IC 10
D29 BAW 62
R44 100k
R51 100k
R49 100k
R47 100k
R45 100k
R52 100k
R50 100k
R48 100k
R46 100k
X2-7
X2-2
X2-8
M
RI
X11 OR X12 OR X13
X3-1
X3-2
X3-3
X3-5
X3-4
X1 OR X2 ON LBB 1271/04
DD I
RO
X2-5
X2-9
X11 OR X12 OR X13
+8V
X2-12
C16 4µ7
X2-11
C17 4µ7
-8V
X2-13
X2-15
X11 OR X12 OR X13
X1-1
X1-2
X1-3
X1-4
X1-5
X1-7
X1-6
X1-8
X1-9
X1-10
X1-11
X1-12
X1-13
X1-15
X1-16
X1-14
AS
BD1
BD2
BD3
BD 4


IC 9
IC 8
IC 6
EN
TTL/C MOS
IC 10
IC 1
MC1558N
IC 2
MC1558N
IC 3
EN
IC 4
NE 5534 N
BD1
BD2
BD3
BD4
X11 OR X12 OR X13
X1 OR X2
ON
LBB 1271/04
L.F. X11 OR X12 OR X13
TO (TAPE OUT)
X11 OR X12 OR X13
D33
D32
D31
BAW 62
(3x)
D29
BAW 62
TS6
BC557
R18 100k
R38 100k
R116 100k
R117 100k
R119 10k
C18 1µ
C53 4µ7
C54 4µ7
C55 4µ7
C56 4µ7
S5
S6
S7
S8
R53 100k
R54 100k
R55 100k
R56 100k
R57
R58
R59
R60
R44 100k
R45
R46
R47
R48
R49
R50
R51
R52
M
RI
DD I
RO
+8V
−8V
AS
X1−1
X1−2
X1−3
X1−4
X1−5
X1−6
X1−7
X1−8
X1−9
X1−10
X1−11
X1−12
X1−13
X1−14
X1−15
X1−16
X2−7
X2−2
X2−8
X2−5
X2−9
X2−10
X2−14
X2−16
X3−1
X3−2
X3−3
X3−4
X3−5
C1 10µ
C2 10µ
C3 100p
C4 100p
C5 10µ
C58 47p
R2 178k
R101 178k
R3 13k3
R4 2k37
R5 20k
R6 6k65
R7 10k
R9 10k
R1 10k
R10 10k
C11 10µ
C12 10µ
C13 100p
C14 100p
C15 10µ
C59 47p
R12 178k
R102 178k
R13 13k3
R14 2k37
R15 20k
R16 6k65
R17 10k
R19 10k
R11 10k
R20 10k
C21 10µ
C22 10µ
C23 100p
C24 100p
C25 10µ
C60 47p
R22 178k
R103 178k
R23 13k3
R24 2k37
R25 20k
R26 6k65
R27 10k
R29 10k
R21 10k
R30 10k
C31 10µ
C32 10µ
C33 100p
C34 100p
C35 10µ
C61 47p
R32 178k
R104 178k
R33 13k3
R34 2k37
R35 20k
R36 6k65
R37 10k
R39 10k
R31 10k
R40 10k
C6 10µ
C62 10n
C57 100p
R8 30k1
C9 10n
C8 10n
C7 10µ
EVE 5808

5.8.4. CHANNEL UNIVERSAL INPUT MODULE LBB 1274/01

7.5 MAINTENANCE

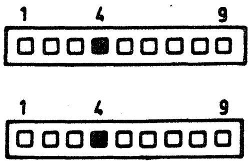
Dust and dirt are the great enemies of magnetic tape. The use of a cleaning cassette at regular intervals is recommended to ensure optimum cassette performance. This cleaning procedure should be carried out every two weeks or after every 100 running hours. A special cleaning cassette is available under service code number 4822 389 20015.

7.6 CHECKLIST FOR FAULT LOCATION

Cassette player module

Connector X15 on main p.c.b

X1 on module p.c.b

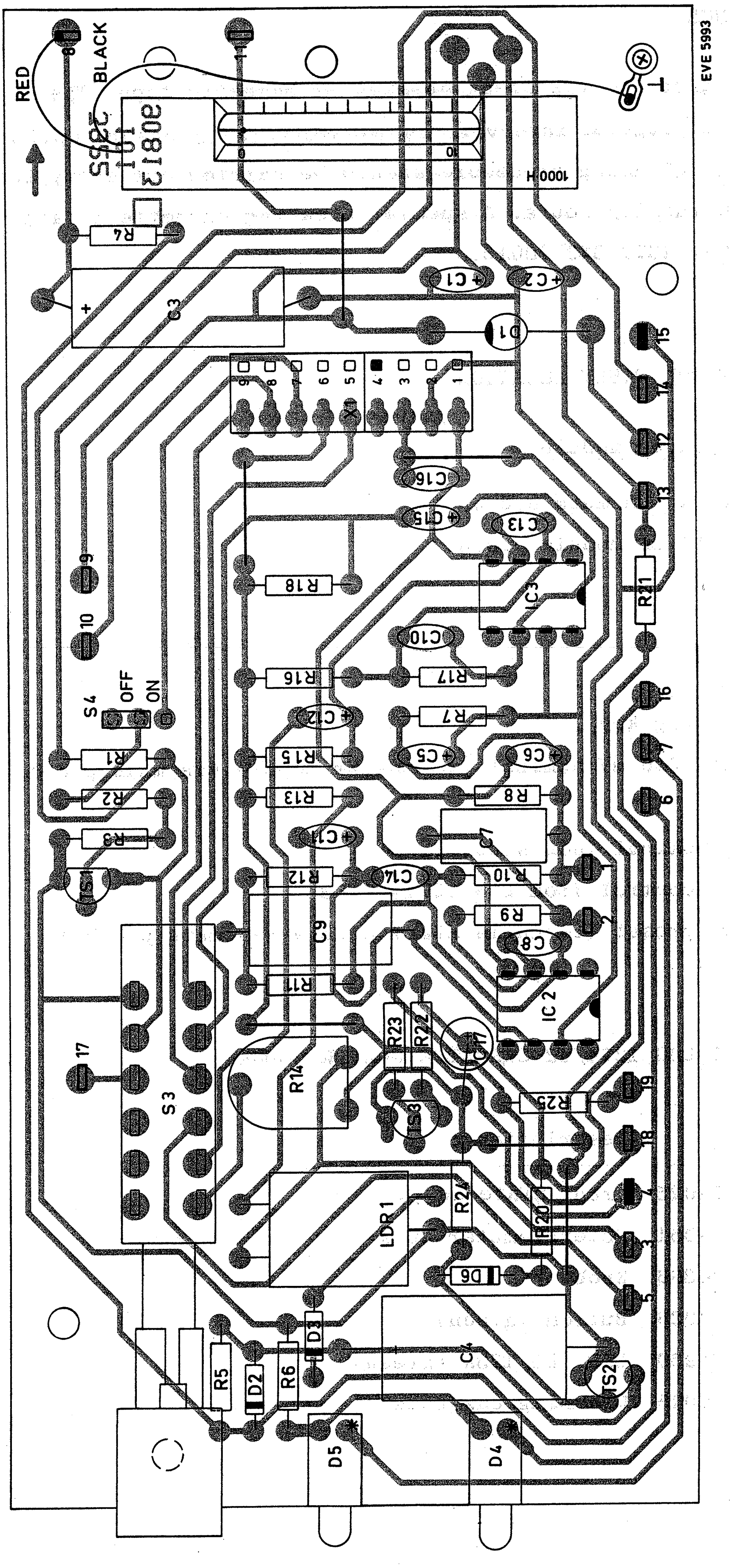


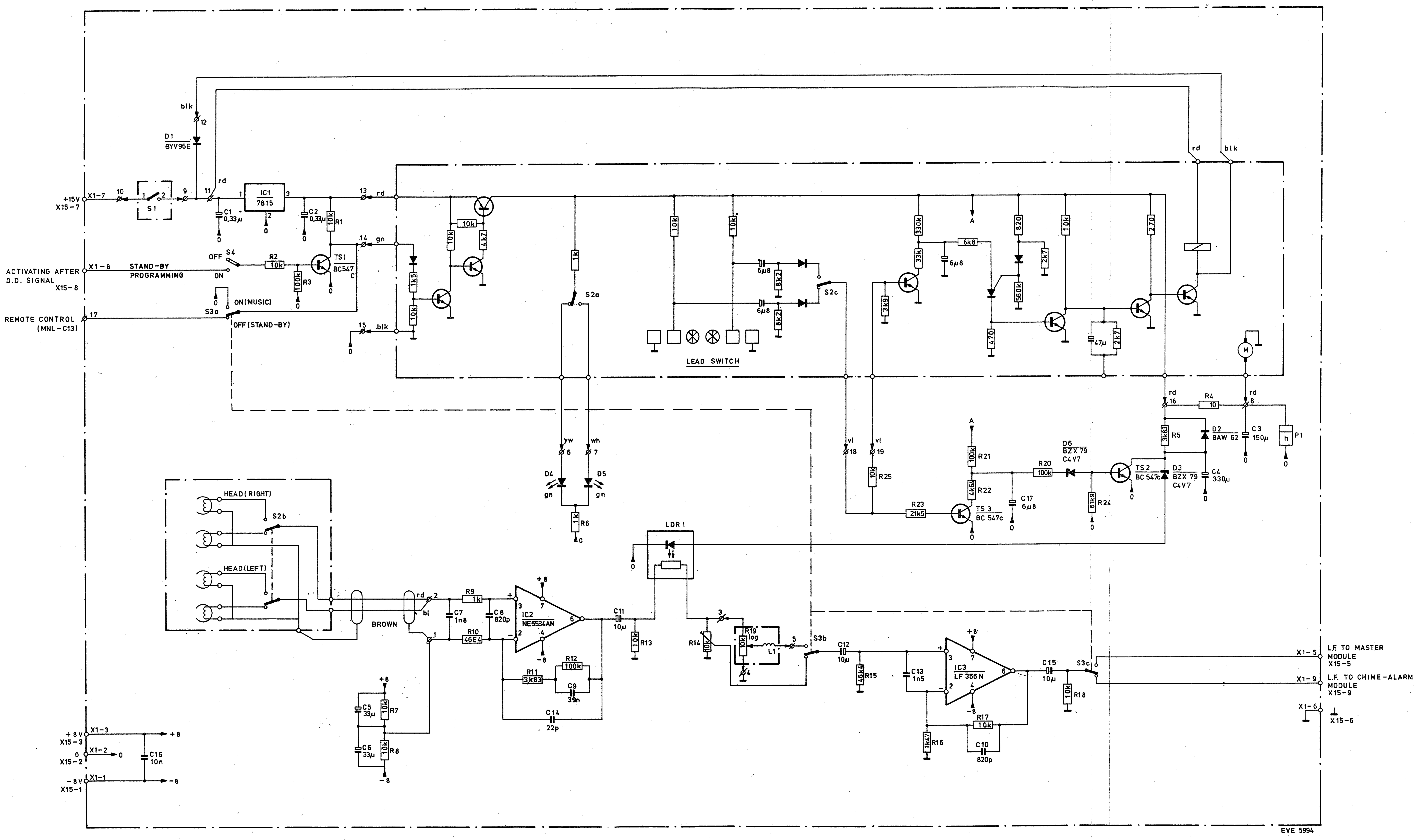
1. -8 V
2. 0
3. +8 V
4. Polarizing key
5. LF out 500 mV nominal (to master module via main p.c.b.)
6. 0
7. +15 V nominal (non stabilised)
8. Remote control from LBB 1271/02/03
9. LF out preset (to chime/alarm module via main p.c.b.)

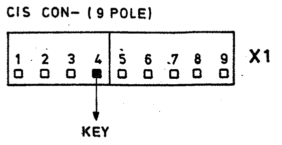
7.7 PARTS LIST LBB 1274/02 CASSETTE PLAYER MODULE

Code number	Description
5322 447 54025	Front plate assy.
5322 105 14051	Potentiometer 10 k
5322 414 26396	Knob
5322 414 14028	Button (green)
5322 130 34959	LED TLG 123A (green)
4822 389 20015	Cleaning cassette

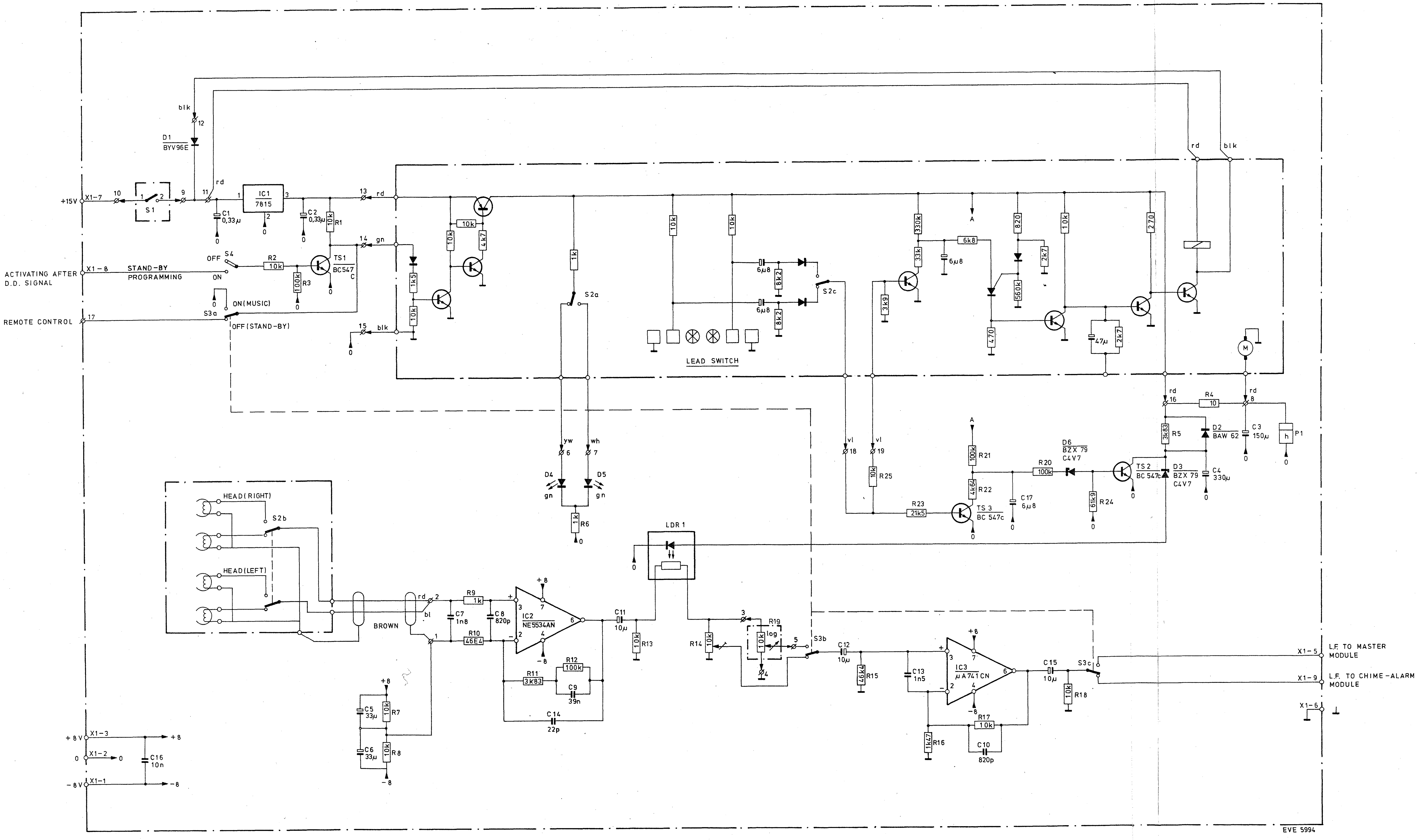
7.8 PCB LAYOUT LBB 1274/02

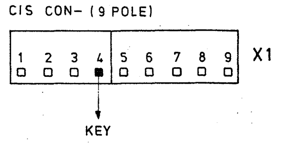

EVE 5993
RED
BLACK
8
30813
101
3255
1000 H
T
R4
C3
C1
C2
D1
15
14
12
13
9 8 7 6 5 4 3 2 1
X
C16
C15
C13
IC3
R21
R18
9
10
C10
R16
R17
S4
OFF
ON
R7
C12
C5
C6
R1
R15
16
7
R2
R13
R8
6
C7
R3
C11
TS1
R12
C14
R10
R9
C9
C8
2
R11
IC2
17
R23
R22
C17
S3
R14
IS3
R25
19
18
4
LDR 1
R24
R20
1
3
D6
5
C4
D3
R5
D2
R6
TS2
D5
D4


+15V
X15-7
X1-7
ACTIVATING AFTER
D.D. SIGNAL
X15-8
X1-8
STAND-BY
PROGRAMMING
REMOTE CONTROL
(MNL-C13)
17
S1
S4
OFF
ON
S3a
ON(MUSIC)
OFF (STAND-BY)
blk
12
D1
BYV96E
rd
IC1
7815
C1
0,33µ
C2
0,33µ
R1
10k
R2
10k
R3
100k
TS1
BC547
13
14
gn
15
1k5
4k7
1k
S2a
S2b
S2c
6µ8
8k2
LEAD SWITCH
330k
33k
3k9
6k8
820
2k7
560k
470
47µ
270
A
M
R4
10
D2
BAW 62
C3
150µ
P1
h
R5
3k83
16
8
TS2
BC 547c
D3
BZX 79
C4V7
C4
330µ
D6
BZX 79
C4V7
R20
100k
R21
100k
R22
4k64
R23
21k5
TS 3
BC 547c
C17
6µ8
R24
61k9
R25
10k
vl
18
19
yw
wh
6
7
D4
D5
gn
R6
HEAD(RIGHT)
HEAD(LEFT)
BROWN
bl
R9
1k
C7
1n8
C8
820p
R10
46E4
IC2
NE5534AN
+8
-8
R11
3k83
R12
100k
C9
39n
C14
22p
C11
10µ
R13
10k
LDR 1
R14
R19
10k
log
L1
S3b
C12
10µ
R15
46k4
C13
1n5
IC3
LF 356 N
R16
1k47
R17
10k
C10
820p
C15
10µ
R18
10k
S3c
C5
33µ
C6
33µ
R7
R8
+8V
X15-3
X1-3
0
X15-2
X1-2
C16
10n
-8V
X15-1
X1-1
X1-5
L.F. TO MASTER
MODULE
X15-5
X1-9
L.F. TO CHIME-ALARM
MODULE
X15-9
X1-6
X15-6
EVE 5994


CIS CON- (9 POLE)
1 2 3 4 5 6 7 8 9
X1
KEY

7.9 CASSETTE PLAYER
LBB 1274/02


+15V
X1-7
S1
D1
BYV96E
blk
rd
IC1
7815
C1
0,33µ
C2
0,33µ
R1
10k
TS1
BC547
R2
10k
R3
100k
OFF S4
ON
STAND-BY
PROGRAMMING
ACTIVATING AFTER D.D. SIGNAL
X1-8
REMOTE CONTROL
S3a
ON (MUSIC)
OFF (STAND-BY)
gn
S2a
S2c
6µ8
8k2
LEAD SWITCH
330k
33k
3k9
6k8
820
560k
2k7
470
47µ
270
rd
blk
M
R4
10
R5
3k83
D2
BAW 62
C3
150µ
P1
h
D6
BZX 79
C4V7
R20
100k
TS2
BC 547c
D3
BZX 79
C4V7
C4
330µ
R21
100k
R22
4k64
C17
6µ8
R24
61k9
R23
21k5
TS 3
BC 547c
R25
10k
vl
D4
D5
yw
wh
R6
1k
HEAD (RIGHT)
HEAD (LEFT)
S2b
BROWN
bl
LDR 1
R9
1k
C7
1n8
C8
820p
R10
46E4
IC2
NE5534AN
R11
3k83
R12
100k
C9
39n
C14
22p
C11
10µ
R13
10k
R14
10k
R19
log
S3b
C12
10µ
R15
46k4
C13
1n5
IC3
µA741CN
R16
1k47
R17
10k
C10
820p
C15
10µ
R18
10k
S3c
X1-5
L.F. TO MASTER MODULE
X1-9
L.F. TO CHIME-ALARM MODULE
X1-6
C5
33µ
R7
10k
C6
33µ
R8
10k
+8 V
X1-3
0
X1-2
-8 V
X1-1
C16
10n
EVE 5994


CIS CON- (9 POLE)
1 2 3 4 5 6 7 8 9
X1
KEY

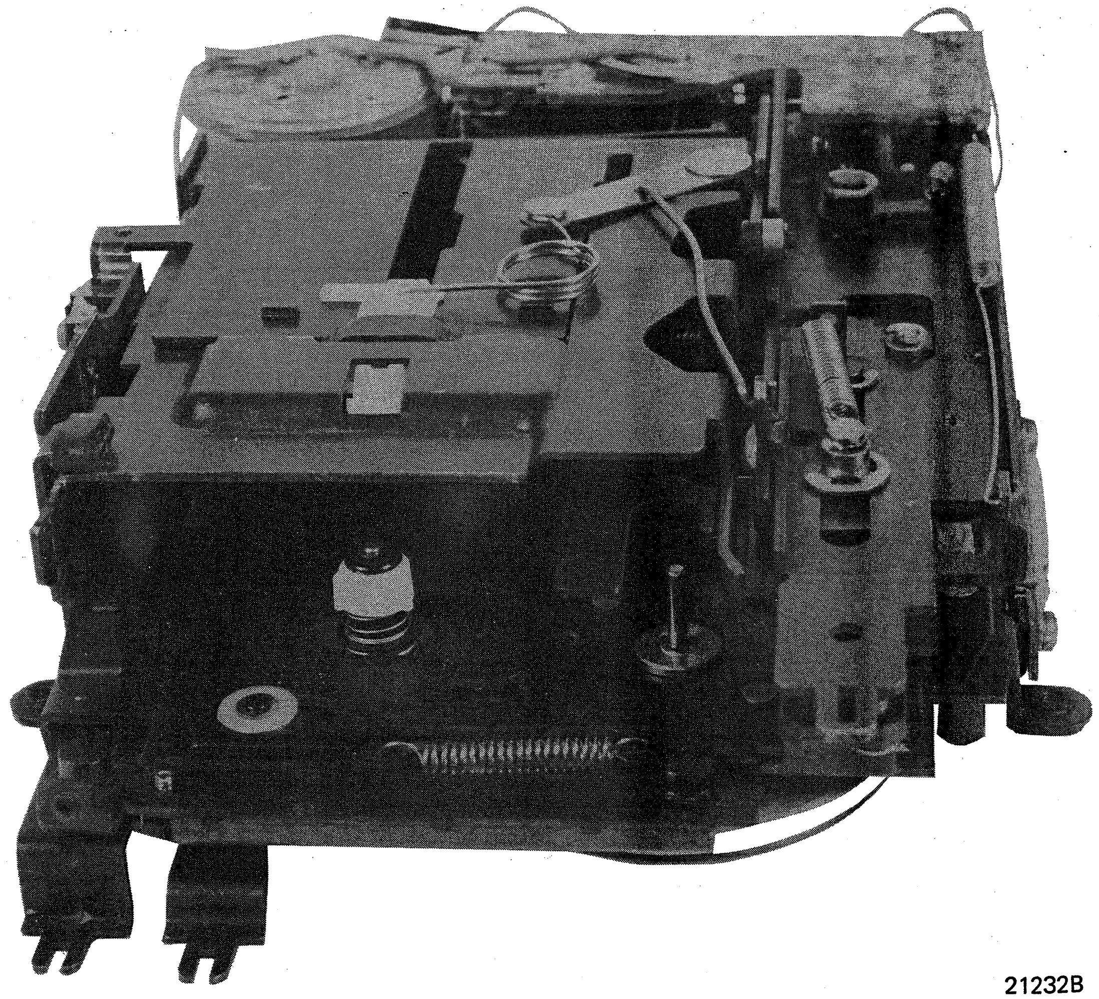
7.9 CASSETTE PLAYER
LBB 1274/02

Auto Cassettedeck CG
CG75B110
CG75B120
CG75B17C
CG75B150

Service
Service
Service

Service Manual 4822 725 13723 is herewith cancelled

Service Manual



21232B

DocumentationTechnique Service Dokumentation Documentazione di Servizio Huolte-Ohje Manual de Servicio Manual de Serviçio

Subject to modification
4822 725 14313
Printed in The Netherlands

(GB)

Technical Specification

Power supply voltage	: 11 - 16 V
Number of tracks	: 2 x 2
Tape speed	: 4,76 cm/s +5 −2,5 %
Wow and flutter	: ⩽ 0,35 %
Wind time	: ⩽ 75 s

SERVICING HINTS

1. Playback head 80 (Fig. 4)

- Slide bracket 75 backwards, thus bringing the head in the playback position.
- Remove screws 10 and 11.
- The playback head may now be taken out in the direction of the arrow.

2. Friction clutch 72 (Fig. 5 and 7)

- Remove pivot plate 511 (take out 3 x screw A).
- Remove both flywheels 96.
- Remove plate 134 with friction clutch (take out 2 x screw B).
- The friction clutch may now be detached after removal of retaining ring 9.

Note:
In case of replacement of the friction clutch, make sure washer 73 is refitted.

3. Pressure roller 57, 79 (Fig. 4, 5 and 6)

- Move guide 75 backwards, thus bringing the deck in the playback position.
- Remove wire spring 97.
- Press down bracket 18.
- Take out the screws 12, 13, 14 and 15, 16.
- Remove bracket 17.
- The pressure roller 57, 79 may be taken out after removal of retaining ring 20.

4. Flywheel 96 (Fig. 5 and 9)

- The pivot plate 511 and the two flywheels 96 may be replaced after removal of three screws A.
  In case of replacement of the flywheel, make sure washer 73 is refitted.
  For adjustment refer to section 6: Adjustments and checks.

MAINTENANCE

It is advised to clean the tape transport and lubricate the principal points at regular intervals.

1. To be cleaned with alcohol or spirit

- Playback head
- Capstans
- Pressure rollers
- Belt and pulleys

Cleaning of head, pressure roller and capstan may also be carried out by means of a cleaning cassette (SBC 114 - 4822 389 20015).

2. Lubricating instructions

- Refer to Fig. 1, 2 or 3.

(NL)

Technische Specificatie

Voedingsspanning	: 11 - 16 V
Aantal sporen	: 2 x 2
Bandsnelheid	: 4,76 cm/sec. +5% −2,5%
Wow en flutter	: ⩽ 0,35 %
Spoeltijd	: ⩽ 75 sec.

REPARATIEWENKEN

1. Weergeefkop 80 (Fig. 4)

- Beugel 75 naar achteren schuiven, waardoor de kop in de speelstand komt.
- De schroeven 10 en 11 verwijderen.
- De weergeefkop kan nu in de richting van de pijl worden uitgenomen.

2. Frictie 72 (Fig. 5 - 7)

- Verwijder taatsplaat 511 (3x schroef A).
- Verwijder beide vliegwielen 96
- Verwijder plaat 134 met frictie (2x schroef C)
- Door nu klemring 9 los te nemen kan de frictie worden verwijderd.

N.B.
Let op dat bij vervanging van de frictie ring 73 wordt aangebracht.

3. Drukrol 57, 79 (Fig. 4,5 en 6)

- Geleider 75 naar achteren bewegen, waardoor het deck in de speelstand komt.
- Verwijder draadveer 97.
- Beugel 18 indrukken.
- Verwijder de schroeven 12, 13, 14, 15 en 16.
- Verwijder beugel 17.
- Door nu klemring 20 los te nemen kan de drukrol 57, 79 worden verwijderd.

4. Vliegwiel 96 (Fig. 5 en 9)

- Door de 3 schroeven A te verwijderen kan de taatsplaat 511 en de beide vliegwielen 96 worden vervangen. Let op dat bij vervanging van het vliegwiel ring 73 wordt aangebracht. Voor instelling zie punt 6 Instellingen en controles.

ONDERHOUD

Het dient aanbeveling het tape deck periodiek te reinigen en op de belangrijkste punten te smeren.

1. Schoonmaken met alcohol of spiritus

- De weergeefkop
- De toonassen
- De drukrollen
- De snaar en poelies.

Voor het reinigen van kop, drukrol en toonas kan ook een "cleaning cassette" (SBC114 - 4822 389 20015) worden gebruikt.

2. Smeervoorschrift

- Zie Fig. 1, 2 of 3.

CS 76 978

Ⓕ

Caracteristiques Techniques

Tension d'alimentation	: 11 - 16 V
Nombre de pistes	: 2 x 2
Vitesse de défilement	: 4,76 cm/sec. +5 % –2,5 %
Pleurage et scintillement	: ⩽ 0,35 %
Durée de bobinage	: ⩽ 75 sec.

CONSEILS REPARATION

1. Tête reproduction 80 (Fig. 4)

- glisser l'étrier 75 vers l'arrière, la tête se plaçant ainsi en position de fonctionnement;
- enlever les vis 10 et 11;
- la tête reproduction peut à présent être ôtée en direction de la flèche (Voir dessin).

2. Friction 72 (Fig. 5 et 7)

- Enlever la plaque de butée 511 (3x vis A);
- Enlever les deux volants 96;
- Oter la plaque 134 ainsi que la friction (2x vis B)
- En détachant l'anneau de serrage 9, le couple de friction est détachable.

N.B.

S'assurer que au remplacement de la friction, l'anneau 73 est monté.

3. Galet presseur 57, 79 (Fig. 4, 5 et 6)

- Glisser la coulisse 75 vers l'arrière, le mécanisme se plaçant ainsi en position de fonctionnement;
- Oter le ressort à fil 97;
- Presser l'étrier 18;
- Enlever les vis 12, 13, 14 et 15, 16;
- Enlever l'étrier 17.
- En détachant l'anneau de serrage 20, le galet presseur 57, 79 pourra être ôté.

4. Volant 96 (Fig. 5 et 9)

- Après avoir enlevé les 3 vis A, la butée 511 et les deux volants pourront être enlevés.
Lors du remplacement s'assurer que l'anneau 73 du volant est monté. Pour ce qui est du réglage, se référer au point 6 "Réglages et contrôles".

ENTRETIEN

Il est fortement conseillé de nettoyer périodiquement le mécanisme et d'en lubrifier les points cardinaux.

1. Nettoyage à l'alcool ou à l'alcool éthylique

- tête reproduction
- cabestans
- galets-presseurs
- courroie et poulies

Une cassette de nettoyage permet aussi le nettoyage de la tête, du galet presseur et du cabestan (SBC114 - 4822 389 20015).

2. Instructions de lubrification

Voir Fig. 1, 2 ou 3.

Ⓓ

Technischen Daten

Versorgungsspannung	: 11 - 16 V
Spurenzahl	: 2 x 2
Bandgeschwindigkeit	: 4,76 cm/s + 5 % –2,5 %
Gleichlaufschwankungen	: ⩽ 0,35 %
Wickeldauer (SVL und SRL)	: ⩽ 75 s

REPARATURHINWEISE

1. Wiedergabekopf 80 (Bild 4)

- Bügel 75 rückwärts schieben, wodurch der Kopf in Spielstellung gelangt.
- Schrauben 10 und 11 lösen.
- Der Wiedergabekopf lässt sich nun in Pfeilrichtung herausnehmen.

2. Friktion 72 (Bilder 5 und 7)

- Spurplatte 511 (3x Schraube A) entfernen.
- Beide Schwungräder 96 abnehmen.
- Platte 134 samt Friktion (2x Schraube B) beseitigen.
- Durch Lösen des Klemmrings 9 lässt sich die Friktion ausbauen.

Achtung !

Es ist zu beachten, dass beim Auswechseln der Friktion Ring 73 angebracht wird.

3. Andruckrolle 57, 79 (Bilder 4, 5 und 6)

- Führung 75 rückwärts bewegen, wodurch das Deck in die Spielstellung gelangt.
- Drahtfeder 97 entfernen.
- Bügel 18 drücken.
- Schrauben 12, 13, 14, 15 und 16 lösen.
- Bügel 17 entfernen.
- Durch Lösen des Klemmrings 20 lässt sich die Andruckrolle 57, 79 ausbauen.

4. Schwungrad 96 (Bilder 5 und 9)

- Durch Lösen der drei Schrauben A lassen sich die Spurplatte 511 und die beiden Schwungräder 96 auswechseln.
Es ist zu beachten, dass beim Auswechseln des Schwungrads Ring 73 angebracht wird. Einstellung siehe Punkt 6 "Einstellungen und Kontrollen".

WARTUNG

Es empfiehlt sich, das Laufwerk in regelmässigen Zeitabständen zu reinigen und an den wichtigsten Stellen zu schmieren.

1. Reinigen mit Alkohol oder Spiritus

- Wiedergabekopf
- Tonwellen
- Andruckrollen
- Seil und Seilrollen

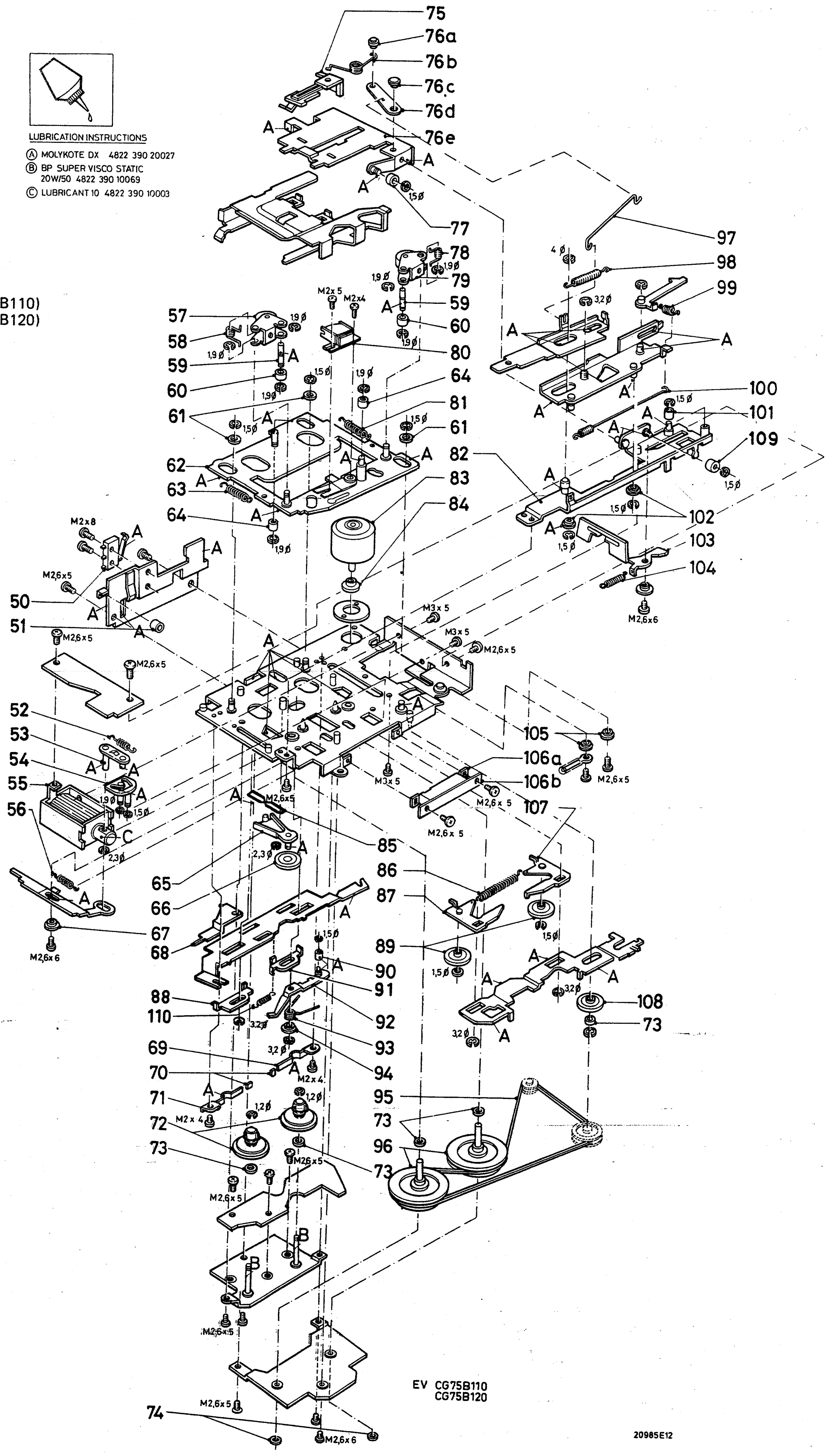
Zum Reinigen von Kopf, Andruckrolle und Tonwelle kann auch eine Reinigungscassette (SBC114 - 4822 389 20015) benutzt werden.

2. Schmiervorschrift

- Siehe Bild 1, 2 oder 3.

50	4822 271 30252	
51	4822 466 40125	
52	4822 492 31651	
53	4822 403 20145	
54	4822 403 20144	
55	4822 281 50064	
56	4822 492 31637	
57	4822 403 40094	
58	4822 492 40863	
59	4822 535 70591	
60	4822 532 10822	
61	4822 532 10821	
62	4822 464 50114	
63	4822 492 31646	
64	4822 532 10813	
65	4822 403 20146	
66	4822 403 20135	
67	4822 532 10823	
68	4822 403 10173	(CG75B110)
68 –	4822 403 10174	(CG75B120)
69	4822 492 31631	
70	4822 466 40124	
71	4822 492 31632	
72	4822 528 90312	
73	4822 532 51142	
74	4822 520 30363	
75	4822 403 10171	
76 a÷e	4822 464 50116	
77	4822 532 10818	
78	4822 492 40867	
79	4822 403 40093	
80	4822 249 30043	
81	4822 492 31647	
82	4822 403 40112	
83	4822 361 20163	
84	4822 528 80797	
85	4822 492 31648	
86	4822 492 31641	
87	4822 403 20137	
88	4822 402 60716	
89	4822 528 70336	
90	4822 532 10815	
91	4822 402 60717	
92	4822 403 40114	
93	4822 492 40864	
94	4822 532 10824	
95	4822 358 30267	
96	4822 528 60127	
97	4822 492 90023	
98	4822 492 31638	
99	4822 492 31639	
100	4822 492 31635	
101	4822 532 10814	
102	4822 532 10817	
103	4822 402 60715	
104	4822 492 31636	
105	4822 532 51143	
106 a-b	4822 277 30653	
107	4822 403 20136	
108	4822 528 80799	
109	4822 532 10819	
110	4822 492 31649	

CG75B110 / CG75B120



LUBRICATION INSTRUCTIONS

Ⓐ MOLYKOTE DX 4822 390 20027

Ⓑ BP SUPER VISCO STATIC 20W/50 4822 390 10069

Ⓒ LUBRICANT 10 4822 390 10003

Fig. 1

50	4822 271 30252
51	4822 466 40125
52	4822 492 31651
53	4822 403 20145
54	4822 403 20144
55	4822 281 50063
56	4822 492 31642
57	4822 403 40111
58	4822 492 40863
59	4822 535 70591
60	4822 532 10822
61	4822 532 10821
62	4822 464 50115
63	4822 492 31646
64	4822 532 10813
65	4822 403 20142
66	4822 403 20135
67	4822 532 10823
68	4822 492 31644
69	4822 492 31631
70	4822 466 40124
71	4822 492 31633
72	4822 528 90312
73	4822 532 51142
74	4822 520 30363
75	4822 403 10171
76 a÷e	4822 464 50116
77	4822 532 10818
78	4822 492 40866
79	4822 403 40111
80	4822 249 30046
81	4822 492 31647
82	4822 403 40113
83	4822 361 70359
84	4822 528 80798
85	4822 492 90024
86	4822 492 31641
87	4822 403 20139
88	4822 492 31645
89	4822 528 70335
90	4822 532 10825
91	4822 403 20142
92	4822 403 20141
93	4822 492 40865
94	4822 532 10824
95	4822 358 30267
96	4822 528 60131
97	4822 492 90023
98	4822 492 31638
99	4822 492 31639
100	4822 492 31635
101	4822 532 10816
102	4822 532 10817
103	4822 402 60714
104	4822 492 31636
105	4822 532 51143
106 a-b	4822 277 30653
107	4822 403 20138
108	4822 528 80799
109	4822 532 10819

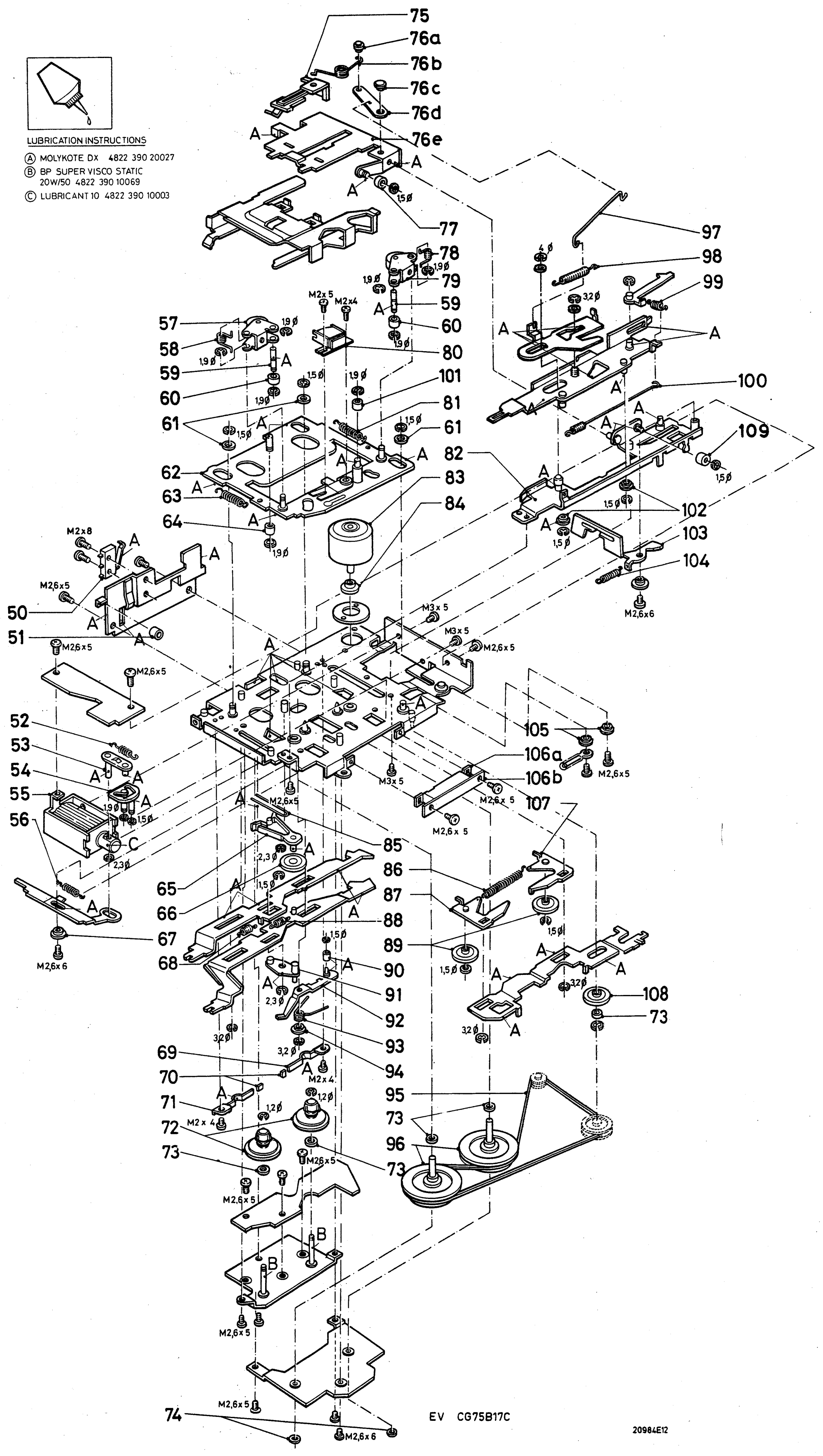
CG75B17C

LUBRICATION INSTRUCTIONS

Ⓐ MOLYKOTE DX 4822 390 20027

Ⓑ BP SUPER VISCO STATIC
20W/50 4822 390 10069

Ⓒ LUBRICANT 10 4822 390 10003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76a
76b
76c
76d
76e
A
77
1,5 ø
97
98
99
78
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60
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101
81
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64
82
83
84
100
109
102
103
104
M2 x 5
M2 x 4
M2 x 8
M2,6 x 5
M2,6 x 6
M3 x 5
50
51
52
53
54
55
56
B
C
1,9 ø
2,3 ø
3,2 ø
4 ø
1,2 ø
105
106a
106b
107
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EV CG75B17C
20984E12

Fig. 2

50	4822 271 30252
51	4822 466 40125
52	4822 492 31651
53	4822 403 20145
54	4822 403 20144
55	4822 281 50064
56	4822 492 31637
57	4822 403 40094
58	4822 492 40863
59	4822 535 70591
60	4822 532 10822
61	4822 532 10821
62	4822 464 50114
63	4822 492 31646
64	4822 532 10813
65	4822 403 20134
66	4822 403 20135
67	4822 532 10823
68	4822 492 31644
69	4822 492 31631
70	4822 466 40124
71	4822 492 31632
72	4822 528 90312
73	4822 532 51142
74	4822 520 30363
75	4822 403 10171
76 a÷e	4822 464 50116
77	4822 532 10818
78	4822 492 40867
79	4822 403 40093
80	4822 249 30043
81	4822 492 31647
82	4822 403 40112
83	4822 361 20163
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85	4822 492 90024
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87	4822 403 20137
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89	4822 528 70335
90	4822 532 10815
91	4822 403 10172
92	4822 403 40114
93	4822 492 40865
94	4822 532 10824
95	4822 358 30267
96	4822 528 60127
97	4822 492 90023
98	4822 492 31638
99	4822 492 31639
100	4822 492 31635
101	4822 532 10814
102	4822 532 10817
103	4822 402 60715
104	4822 492 31636
105	4822 532 51143
106 a-b	4822 277 30653
107	4822 403 20136
108	4822 528 80799
109	4822 532 10819

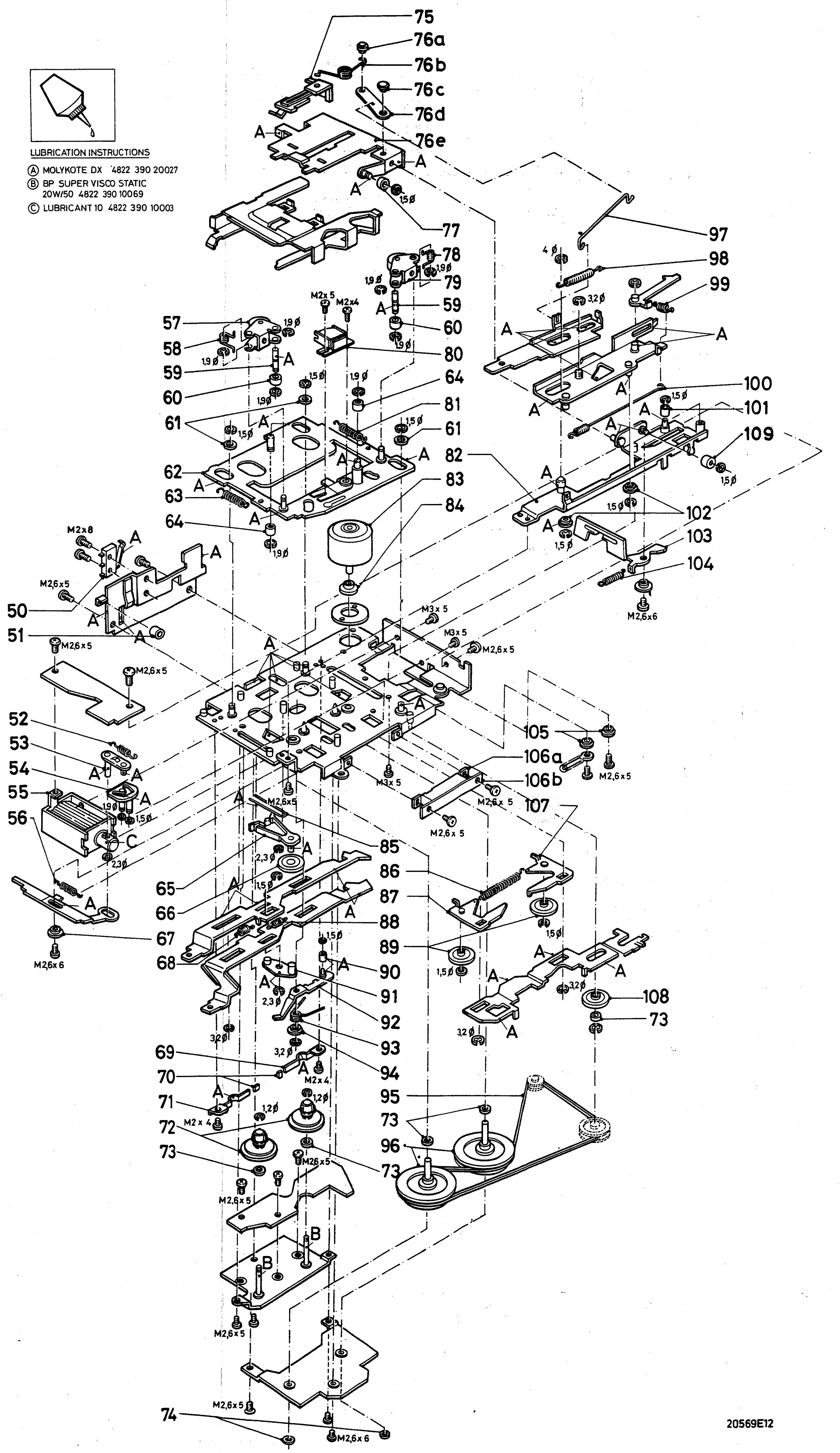
CG71B150

LUBRICATION INSTRUCTIONS

Ⓐ MOLYKOTE DX 4822 390 20027

Ⓑ BP SUPER VISCO STATIC
20W/50 4822 390 10069

Ⓒ LUBRICANT 10 4822 390 10003


75
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76b
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76d
76e
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102
103
104
M2 x 5
M2 x 4
M2 x 8
M2,6 x 5
M2,6 x 6
M3 x 5
50
51
52
53
54
55
56
B
C
1,9 ø
2,3 ø
3,2 ø
4 ø
1,2 ø
105
106a
106b
107
85
86
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20569E12

Fig. 3

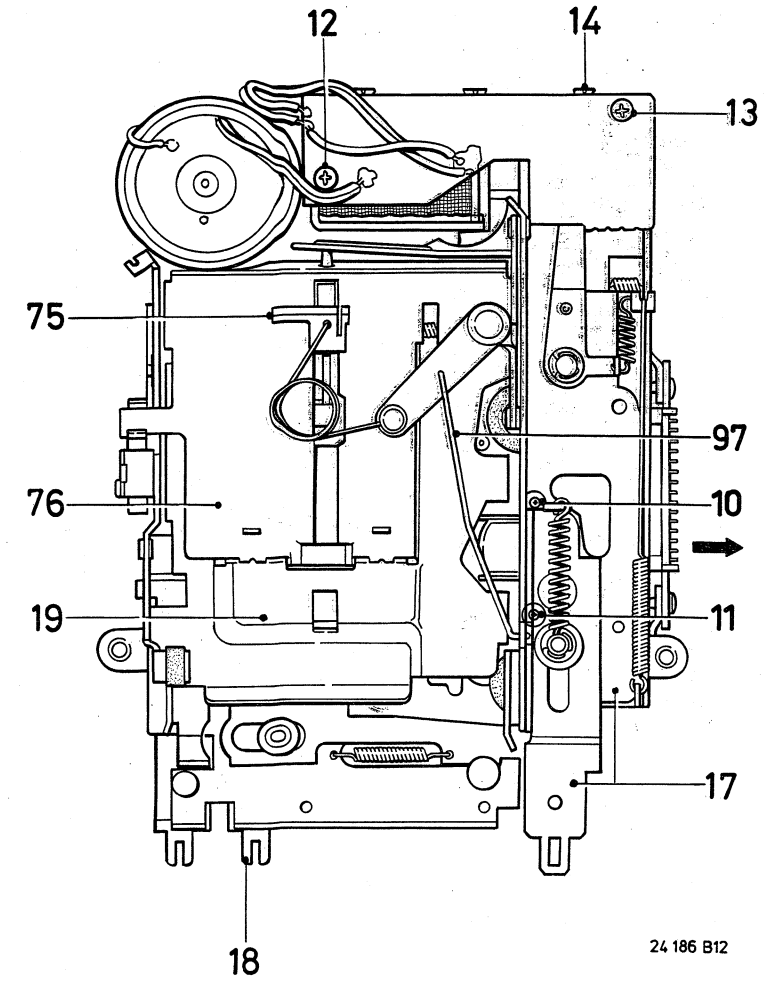


Fig. 4

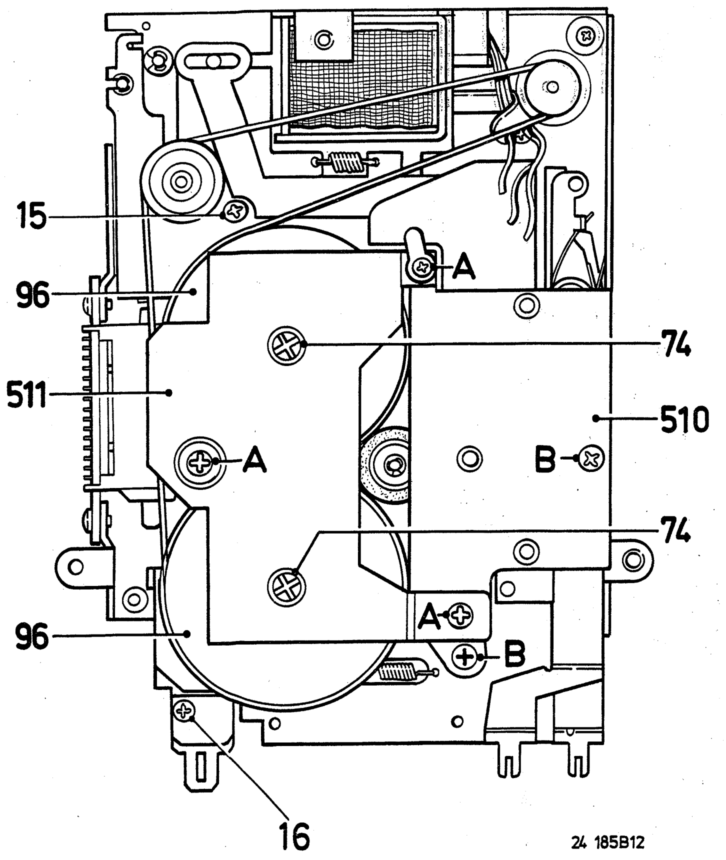


Fig. 5

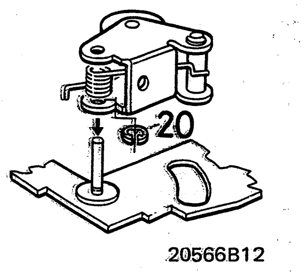


Fig. 6

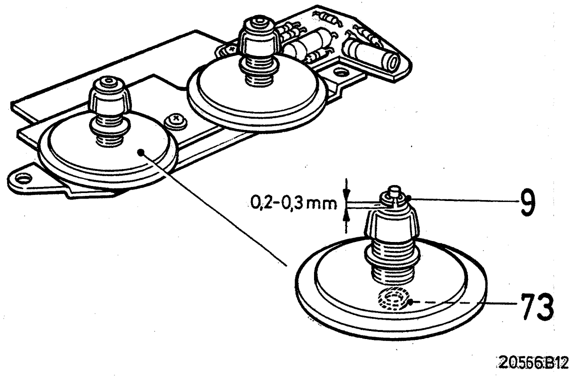


Fig. 7

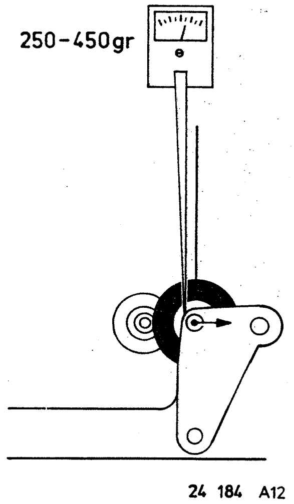


Fig. 8

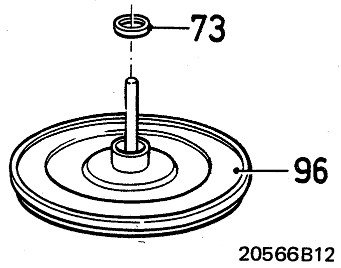


Fig. 9

(GB)

ADJUSTMENTS AND CHECKS

Measuring equipment required:

– Spring scale 50 - 500 g	4822 395 80028
– Friction test cassette	4822 395 30054
– Azimuth test cassette (e.g. universal test cassette SBC133Fe)	4822 397 30039

1. Azimuth (refer to Fig. 4)

- Connect both head leads via a preamplifier parallel to a millivoltmeter
- Play the 10 kHz signal of the azimuth test cassette.
- Adjust screw 11 for maximum output voltage reading.

2. Play take-up torque and supplying reel drag

- Insert the friction test cassette
- The play take-up torque should be 40 - 70 g.cm
- The supplying reel drag should be 1 - 3 g.cm.

3. Pressure roller (refer to Fig. 8)

The pressure which the pressure roller exerts on the capstan should be between 250 and 350 g. This measurement can be made as follows:

- Select PLAY mode.
- Push the pressure roller back at the indicated point by means of the spring scale.
- Read spring scale indication at the moment at which the pressure is just released from the capstan.
- No facility for pressure roller pressure adjustment has been provided.
  If pressure is incorrect, replace spring 58 or 78 for the left and right pressure roller respectively.

4. Wow and flutter

- Connect both head leads via an amplifier to a wow-and-flutter meter.
- Play the 3150 Hz signal of the test cassette.
- The wow-and-flutter value is allowed to be max. 0,35%
- At the same time read the speed.
  Max. permissible deviation: –2,5 %/ +5 %.
  No speed adjustment has been provided.

5. Motor

- The belt groove of the motor pulley must - with respect to the frame - be level within 0,3 mm with the belt groove of flywheel 96 and idler 108.

6. Flywheel (Fig. 5)

The axial play of the flywheel should be 0,1 to 0,3 mm
Adjustment can be achieved with screw 74.

(NL)

INSTELLINGEN EN CONTROLES

Benodigde meetinstrumenten:

– Veerdrukmeter 50 - 500 gr.	4822 395 80028
– Frictie testcassette	4822 395 30054
– Azimuth testcassette (b.v. Universele testcassette SBC 133 Fe)	4822 397 30039

1. Azimuth (Fig. 4)

- Sluit beide kopdraden via een voorversterker, parallel aan een millivoltmeter.
- M.b.v. een azimuth testcassette het 10 kHz signaal weergeven.
- Stel m.b.v. schroef 11 de uitgangsspanning op maximum.

2. Opspoel- en tegenfrictie

- Breng de frictie-testcassette in het apparaat.
- De opspoelfrictie moet 40 - 70 grcm bedragen.
- De tegenfrictie moet 1 - 3 grcm bedragen.

3. Drukrol (Fig. 8)

De drukrolkracht tegen de toonas moet 250 - 350 gr bedragen. Dit kan als volgt worden gemeten:

- apparaat in stand weergeven
- druk de drukrol met de veerdrukmeter in het aangegeven punt terug.
- op het moment dat de drukrol los komt van de toonas moet de meteraanwijzing worden afgelezen
- de drukrolkracht kan niet worden ingesteld.
  Indien de drukrolkracht niet juist is veer 58 of 78 voor de linker resp. rechter drukrol vervangen.

4. Jengel

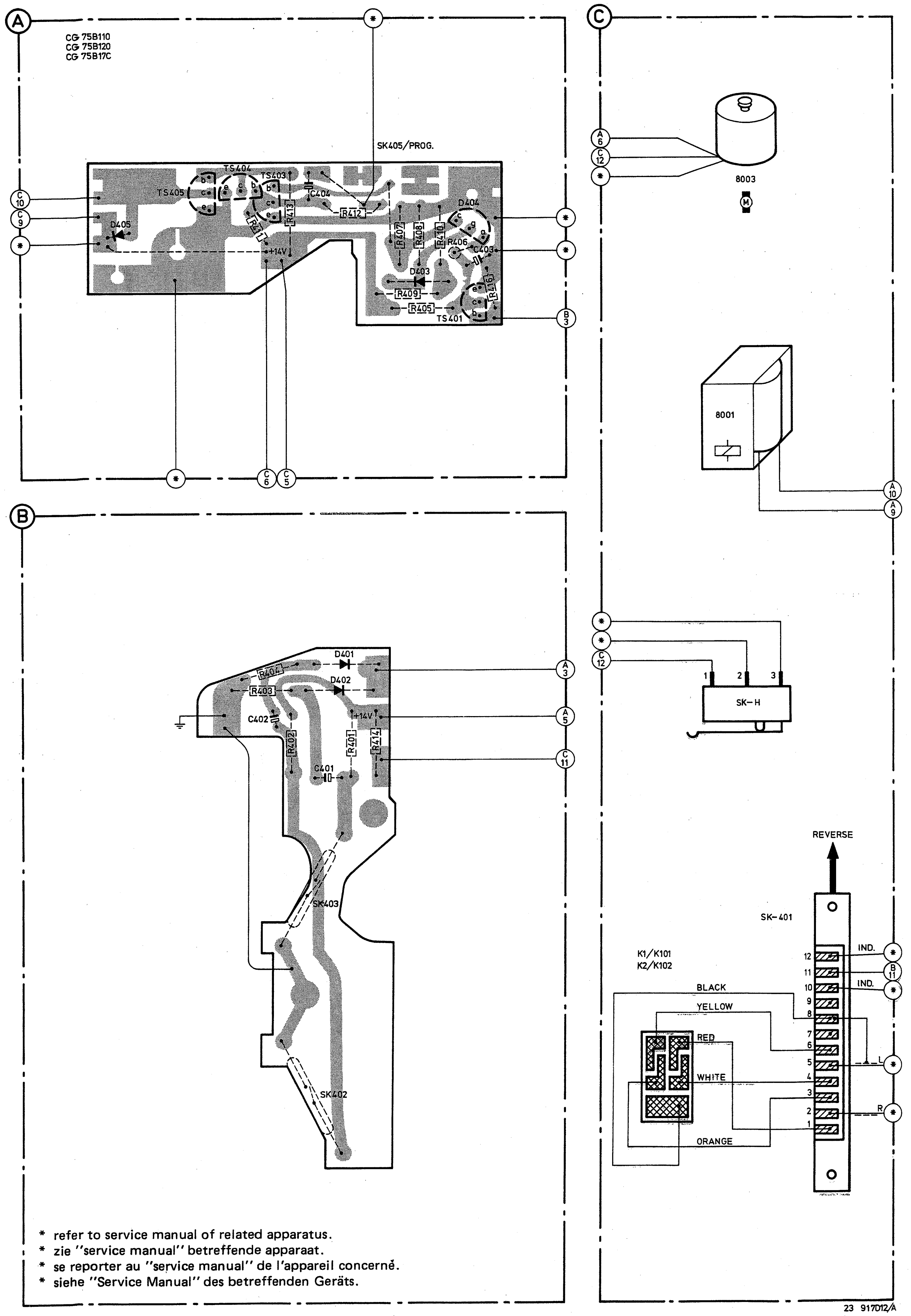
- Sluit beide kopdraden via een versterker aan aan een wow en fluttermeter.
- Het 3150 Hz deel van de testcassette weergeven.
- De jengelwaarde mag max. 0.35 % bedragen.
- Tevens kan de snelheid worden afgelezen.
  Maximale toelaatbare afwijking –2,5 +5%.
  De snelheid kan niet worden ingesteld.

5. Motor

- De snaargroef van de motorpoelie moet, t.o.v. het frame, binnen 0,3 mm op gelijke hoogte liggen met de snaargroef van vliegwiel 96 en tussenwiel 108.

6. Vliegwiel (Fig. 5)

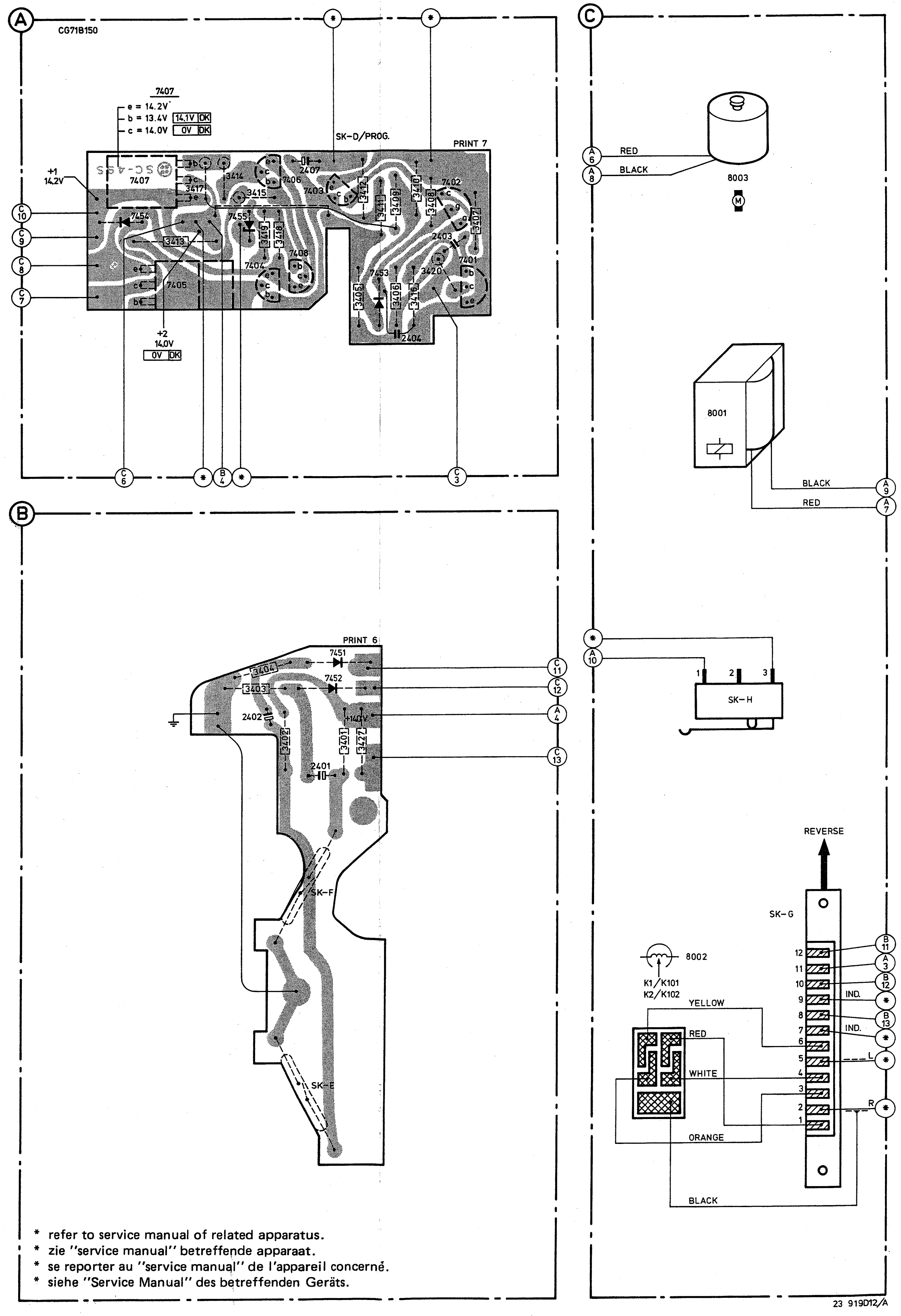
De axiale speling van het vliegwiel moet 0,1 - 0,3 mm zijn. Dit is in te stellen m.b.v. schroef 74.


A
CG 75B110
CG 75B120
CG 75B17C
SK405/PROG.
TS404
TS403
TS405
C404
R412
R413
R411
D405
D404
R407
R408
R410
R406
C403
D403
R409
R416
R405
TS401
+14V
B
D401
D402
R404
R403
C402
R402
R401
R414
C401
+14V
SK403
SK402
C
8003
8001
SK-H
1
2
3
REVERSE
SK-401
K1/K101
K2/K102
BLACK
YELLOW
RED
WHITE
ORANGE
IND.
IND.
L
R
12
11
10
9
8
7
6
5
4
3
2
1

* refer to service manual of related apparatus.
* zie "service manual" betreffende apparaat.
* se reporter au "service manual" de l'appareil concerné.
* siehe "Service Manual" des betreffenden Geräts.

23 917012/A

Fig. 12


A
CG71B150
7407
e = 14.2V
b = 13.4V 14,1V DK
c = 14.0V 0V DK
SK-D/PROG.
PRINT 7
+1
14,2V
7454
3413
7405
+2
14,0V
0V DK
3414
3417
3415
7455
3419
3418
7406
2407
7403
7404
7408
3412
3411
3409
3410
3408
7402
3407
2403
7401
3420
7453
3405
3406
3416
2404
B
PRINT 6
7451
7452
3404
3403
2402
3402
3401
3427
2401
+14V
SK-F
SK-E
C
RED
BLACK
8003
8001
BLACK
RED
SK-H
1
2
3
REVERSE
SK-G
8002
K1/K101
K2/K102
YELLOW
RED
WHITE
ORANGE
BLACK
IND.
IND.
L
R
12
11
10
9
8
7
6
5
4
3
2
1

* refer to service manual of related apparatus.
* zie "service manual" betreffende apparaat.
* se reporter au "service manual" de l'appareil concerné.
* siehe "Service Manual" des betreffenden Geräts.

23 919D12/A

Fig. 13

GB

THE WORKING OF THE CASSETTE PLAYER

(Figs. 14 through 18)

The arrows in the above-mentioned figures indicate the movements made by the components in case of a certain operation.
The appended tables indicate the sequence of the movements as they should be read in the figures.
Vertically the subsequent movements are given.
Horizontally the simultaneous movements are given.

Playback mode ◁▷

The initial position is the position in which a cassette has not yet been inserted in the recorder. Movement 9 e.g. is followed by movements 10 and 11 or 10 and 12. This depends on the position of reverse slide A.
◁ is tape threading to the left and ▷ is tape threading to the right. The related indicator will illuminate.
The hatched arrows exclusively indicate the movements in case of tape threading to the left (◁).

Programme/autoreverse mode ▷↔◁

The initial position is the final position obtained after insertion of the cassette.
Tape threading is to the right ▷ (to the left ◁) and will be changed into to the left ◁ (to the right ▷).

Wind/rewind mode ▷▷/◁◁

The initial position is the final position obtained after insertion of the cassette.
Depressing e.g. the ▷▷ key will cause this key to be locked.
Unlocking is effected by half depressing of the ◁◁ key.
When end-of-tape is reached during FAST FORWARD the electromagnet will briefly be energized.
In that case bracket A will unlock the FAST FORWARD key and either position ▷ or position ◁ will be reassumed.

Eject mode ↷

The initial position is the final position obtained after insertion of the cassette in the ▷ mode.

NL

DE WERKING VAN DE CASSETTESPELER

(Fig. 1 t/m 5)

In de genoemde figuren zijn met pijlen de bewegingen aangegeven die de onderdelen maken bij een bepaalde handeling.
In de bijgevoegde tabellen is de volgorde aangegeven van de bewegingen, zoals die in de figuren moeten worden gelezen.
Verticaal zijn de bewegingen aangegeven, zoals ze na elkaar gebeuren.
In het horizontale vlak zijn de bewegingen aangegeven, zoals ze tegelijkertijd plaatsvinden.

Positie weergave ◁▷

De beginpositie is die positie waarbij nog geen cassette in het apparaat is ingebracht. Na b.v. beweging 9 gebeuren de bewegingen 10 en 11 of 10 en 12. Dit is afhankelijk van de stand van de reverse schuif A.
" ◁ " is bandloop linksom. " ▷ " is bandloop rechtsom. De betreffende indicator licht op.
De gearceerde pijlen geven uitsluitend die bewegingen aan die gebeuren wanneer de bandloop linksom is. (" ◁ ")

Positie program/auto reverse ▷↔◁

De beginpositie is de eindpositie welke is ontstaan na het inbrengen van de cassette.
De bandloop is rechtsom " ▷ " (linksom " ◁ ") en wordt gewijzigd naar linksom " ◁ " (rechtsom " ▷ ").

Positie wind/rewind ▷▷/◁◁

De beginpositie is de eindpositie zoals deze is ontstaan na het inbrengen van de cassette.
Door indrukken van b.v. de "▷▷ " toets zal deze worden vergrendeld. Ontgrendeling geschiedt door de " ◁◁ "-toets half in te drukken.
Als tijdens snelspoelen einde band bereikt wordt zal de electromagneet even bekrachtigd worden.
Beugel A zal dan de snelspoeltoets ontgrendelen en de positie ▷ of ◁ zal weer worden ingenomen.

Positie eject ↷

De beginpositie is de eindpositie zoals deze is ontstaan na het inbrengen van de cassette in de positie " ▷ "

F

FONCTIONNEMENT DU MAGNETOPHONE A CASSETTE (Fig. 14 à 18)

Dans ces figures, les flèchés indiquent les mouvements imprimés aux éléments lors de certaines manipulations.
Dans les tableaux ci-joints ces mouvements sont donnés dans l'ordre dans lequel ils doivent être lus sur les figures.
A la verticale, les mouvements qui doivent être effectués sont donnés dans l'ordre de succession.
A l'horizontale, on lira les mouvements tels qu'ils sont effectués simultanément.

Position reproduction ◁▷

La position de départ est la position où il n'y a pas encore de cassette dans l'appareil. Après avoir effectué le mouvement 9, par exemple, ce sont les mouvements 10 et 11 ou 10 et 12 qui ont lieu. Ceci dépend de la position de la coulisse d'inversion A. " ◁ " est le défilement de bande vers la gauche; " ▷ " est le défilement de bande vers la droite.
L'indicateur en cause s'allume.
Les flèches en hachuré ne donnent que les mouvements qui se produisent lorsque la bande défile vers la gauche (" ◁ ").

Position programme/inversion automatique ▷↔◁

La position de départ est la position finale qui résulte du fait que la cassette et placée.
La défilement de bande s'effectue vers la droite " ▷ " (vers la gauche " ◁ ") et change en vers la gauche " ◁ " (vers la droite " ▷ ").

Position bobinage avant/bobinage arrière ▷▷/◁◁

La position de démarrage est la position finale qui résulte du fait que la cassette est placée.
En pressant la touche " ▷▷ " elle sera verrouillée. Le déverrouillage s'effectue en enfonçant à moitié la touche " ◁◁ ".
Si en bobinage accéléré, la fin de bande est atteinte, l'électroaimant sera brièvement excité.
L'étrier A déverrouillera la touche de bobinage accéléré et la position ▷ ou ◁ sera retrouvée.

Position éjection ↷

La position de démarrage est la position finale telle qu'elle résulte du fait que la cassette est placée en position " ▷ ".

D

ARBEITSWEISE DES CASSETTENSPIELERS

(Bilder 14 bis 18)

In den genannten Bildern sind durch Pfeile die Bewegungen angezeigt, welche die Teile bei einem bestimmten Vorgang machen.
In den beigelegten Tabellen ist die Folge der Bewegungen angegeben, wie sie in den Bildern gelesen werden sollen.
Senkrecht sind die Bewegungen, wie sie nacheinander erfolgen, angegeben.
In waagerechter Ebene sind die Bewegungen, wie sie gleichzeitig erfolgen, angegeben.

Wiedergabestellung ◁▷

Die Anfangsposition ist jene Stellung in der noch keine Cassette in das Gerät eingelegt worden ist. Nach beispielsweise Bewegung 9 erfolgen die Bewegungen 10 und 11 oder 10 und 12, bedingt durch die Stellung des "reverse"-Schiebers A. " ◁ " bedeutet Bandlauf linksherum, " ▷ " bedeutet Bandlauf rechtsherum. Der entsprechende Anzeiger leuchtet auf.
Die schraffierten Pfeile kennzeichnen ausschliesslich jene Bewegungen die erfolgen wenn der Bandlauf linksherum ist (" ◁ ").

Stellung "program/auto reverse" ▷↔◁

Die Anfangsstellung ist die Endstellung die sich nach Einlegen der Cassette ergeben hat.
Der Bandlauf ist rechtsherum " ▷ " (linksherum " ◁ ") und wird auf linksherum " ◁ " (rechtsherum " ▷ ") geändert.

Stellung "wind/rewind" ▷▷/◁◁

Die Anfangsstellung ist die Endstellung wie sie sich nach Einlegen der Cassette ergeben hat.
Durch Drücken etwa der Taste " ▷▷ " wird sie verriegelt werden. Entriegelung erfolgt dadurch dass die Taste "◁◁" halbwegs gedrückt wird.
Wenn während des Schnellaufs das Bandende erreicht wird, wird der Elektromagnet kurzzeitig erregt werden.
Bügel A wird dann die Schnellauftaste entriegeln und die Stellung ▷ oder ◁ wird wieder eingenommen werden.

Stellung "eject" ↷

Die Anfangsstellung ist die Endstellung wie sie sich nach Einlegen der Cassette in Stellung " ▷ " ergeben hat.

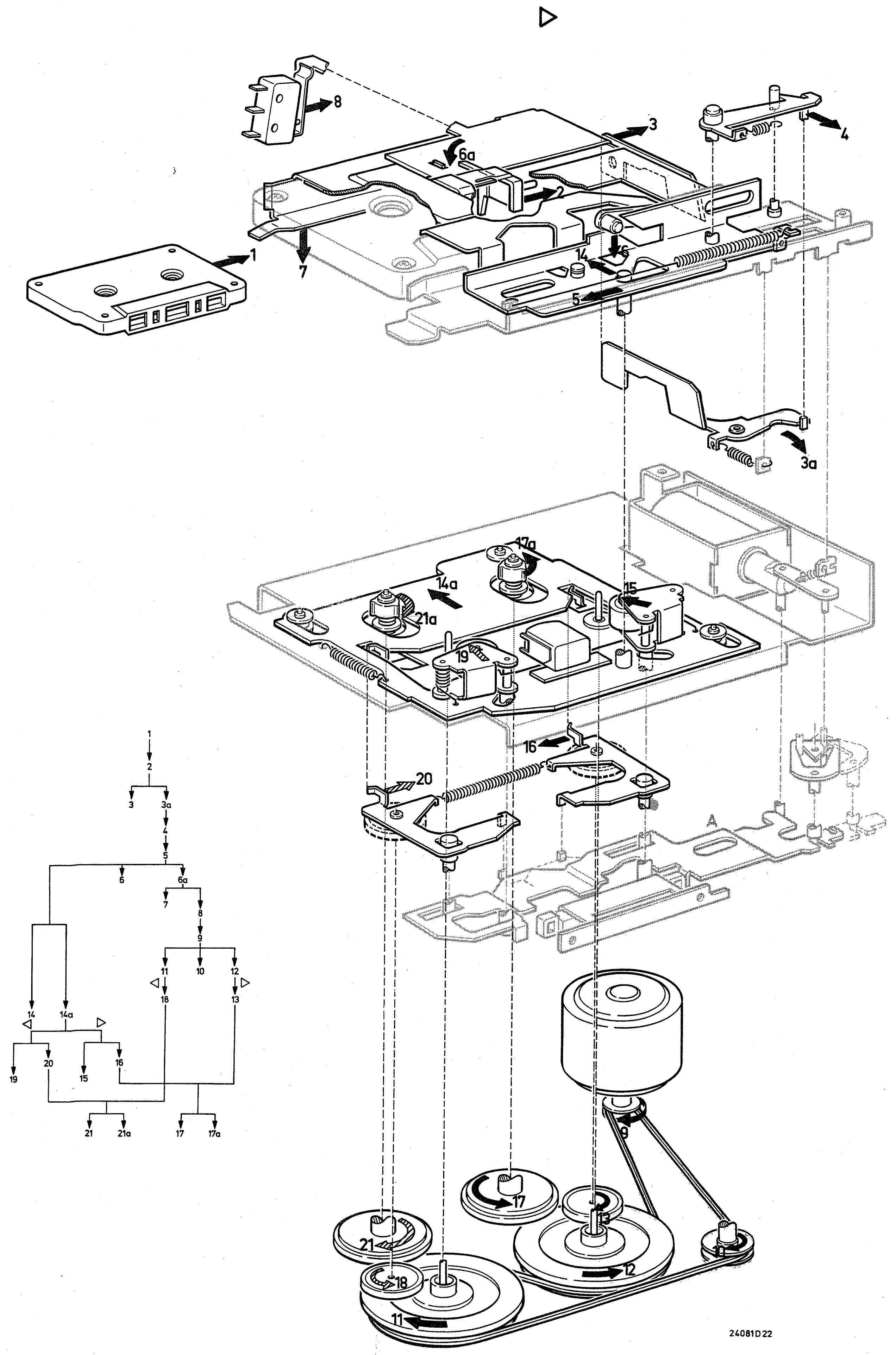

▷
8
6a
3
4
2
1
7
14
6
5
3a
14a
17a
21a
15
19
16
20
A
9
17
13
21
18
12
11
10
1
2
3
3a
4
5
6
6a
7
8
9
11
10
12
◁
18
▷
13
14
14a
◁
▷
19
20
15
16
21
21a
17
17a
24081D22

Fig. 14

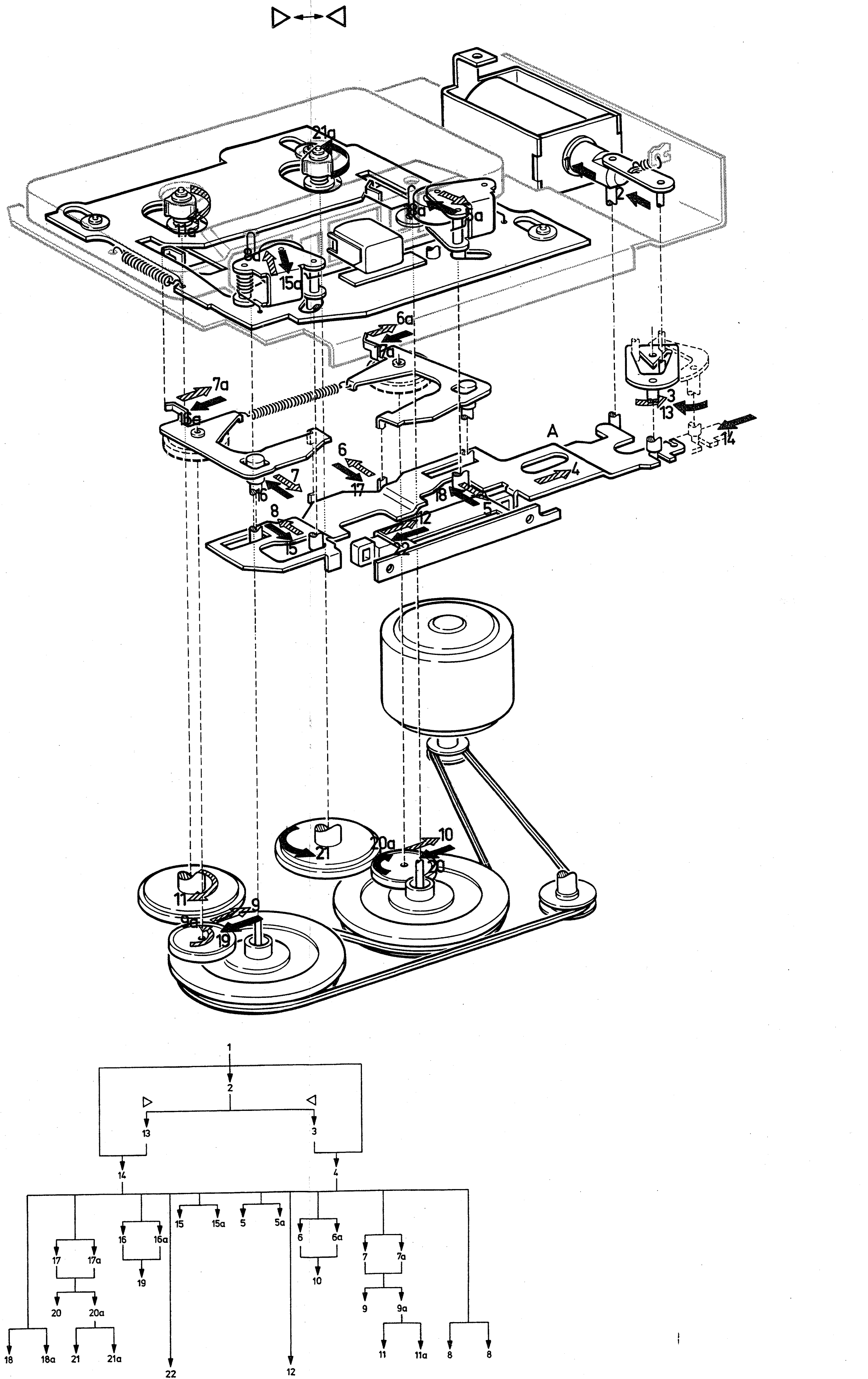

▷↔◁
21a
11a
18a
8a
15a
5a
2
6a
17a
7a
16a
3
13
14
A
6
7
17
4
16
18
5
8
15
12
22
10
20a
20
21
11
9
9a
19
1
2
▷
◁
13
3
14
4
15
15a
5
5a
17
17a
16
16a
19
6
6a
10
7
7a
9
9a
20
20a
11
11a
18
18a
21
21a
22
12
8
8

Fig. 15

24083D22

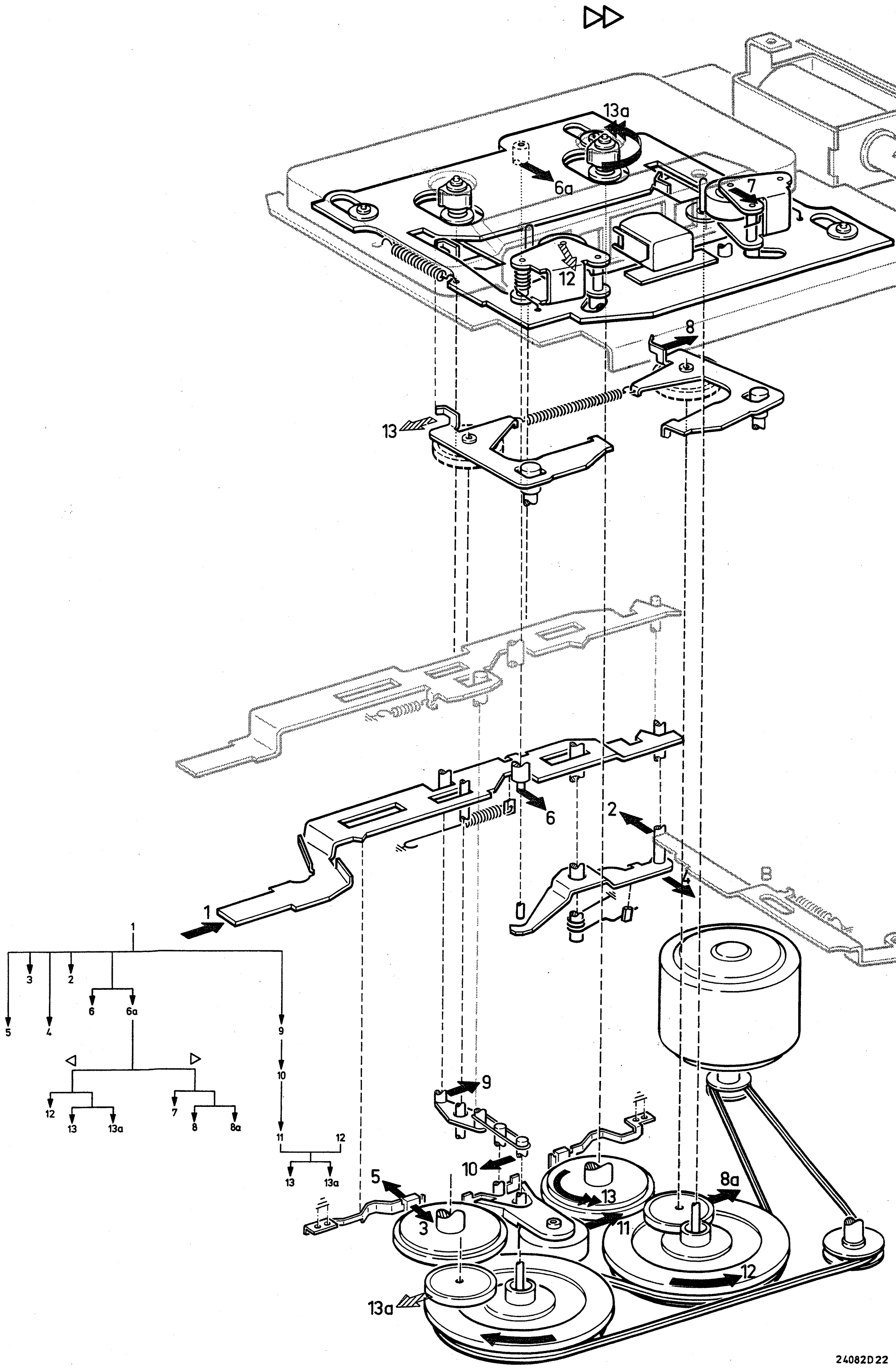

▷▷
6a
B
6a
◁
▷
8a
8a
24082D22

Fig. 16

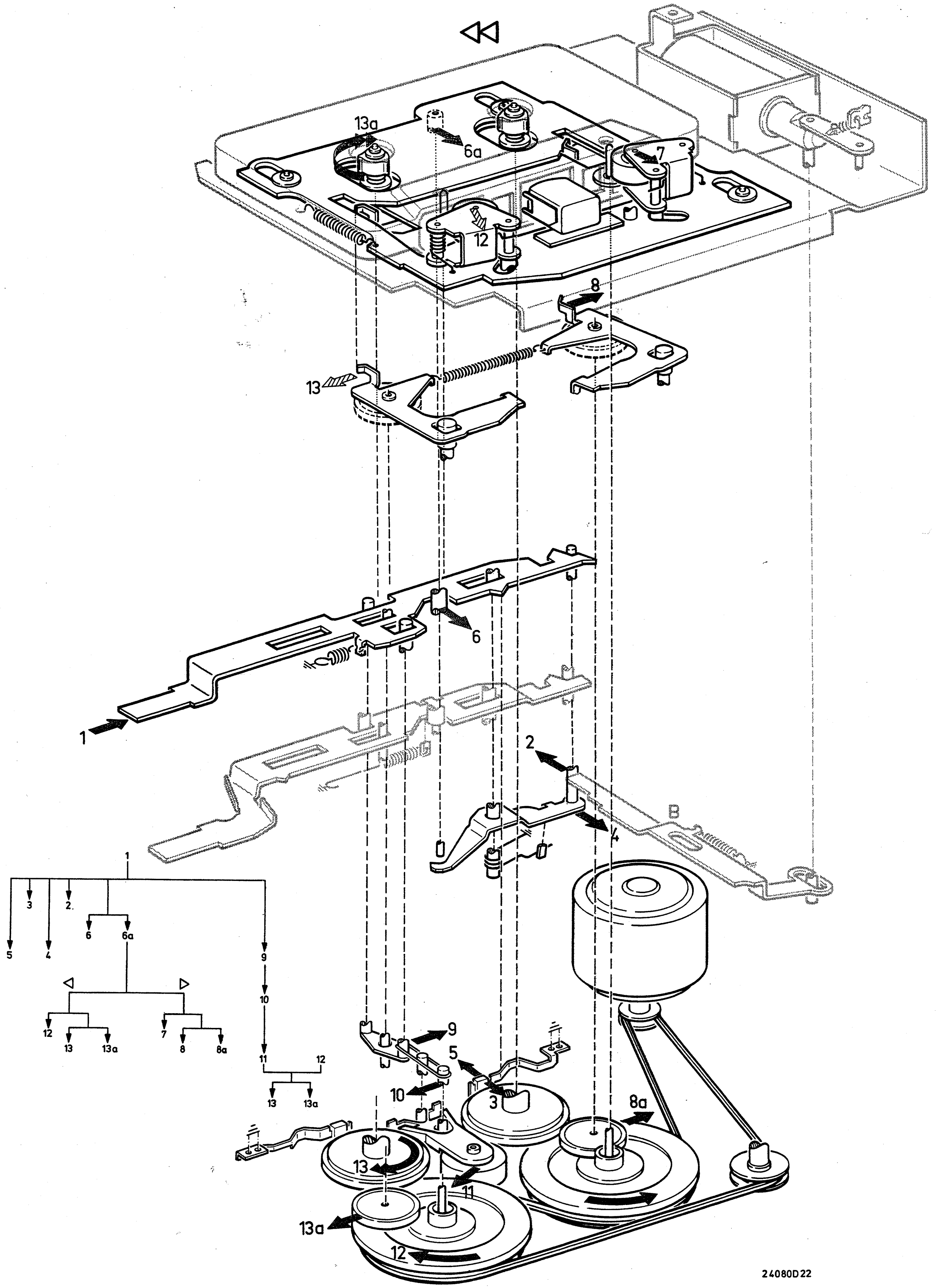

◁◁
13a
6a
7
12
8
13
6
1
2
4
B
1
3
2.
5
4
6
6a
9
10
◁
▷
12
13
13a
7
8
8a
11
12
13
13a
9
5
10
3
8a
13
11
13a
12
24080D22

Fig. 17

ELA SERVICE INFORMATION

PHILIPS

1982.06.14	LBB 1274/01	Eb 863
Already published		

To avoid the influence of electrostatic discharge and strong HF radiation on the proper working of the LBB 1274/01, this module has been re-designed, together with some other modules of the SQ6 system. (see also Eb 864, 865, 866 and 867).

Although the type number has not been changed, the modified modules LBB 1274/01 can be identified by the serial number from 10.000 onwards.

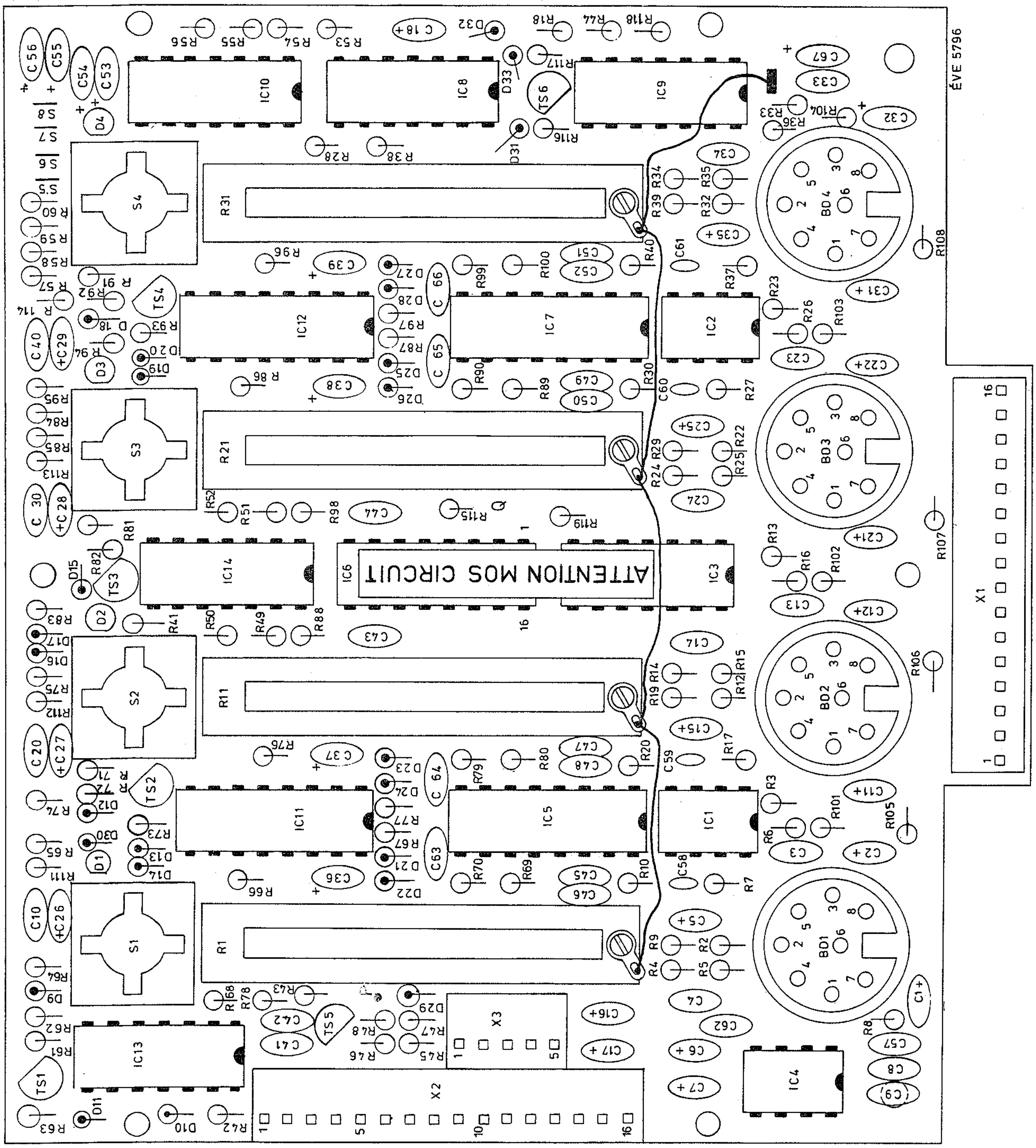
As a result of this modification, the width of the chime-initiate-pulse from the 4-channel input module to the chime/alarm module has been changed from 20 µsec to 200 msec.

As the SQ6 modules LBB 1271/02 and LBB 1271/03 have also been changed for the same reasons as mentioned above, we strongly advise you to use only the combination new-new (or old-old) for the above mentioned modules together in one SQ6 system.
The modified modules LBB 1271/02 and LBB 1271/03 are also recognisable by the serial number from 10.000 onwards.

At the same time as the introduction of the interference suppression in the LBB 1274/01, a functional modification has been build in: The new modules are delivered not as a normal 4-channel input module, but as a "3 + 1" channel input module.

This means that the 4th channel is preset to function as a functional music input and will be reset after periods of interruption by activation of channel 1, 2 or 3.
(See also instructions for use, enclosed with every module).
By changing three soldered connections on the p.c.b. (points A, B and C) the function can be altered to that of the normal 4-channel configuration.

5.6 P.C.B. LAY-OUT LBB 1274/01 4-CHANNEL INPUT MODULE


EVE 5796
ATTENTION MOS CIRCUIT
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
IC9
IC10
IC11
IC12
IC13
IC14
S1
S2
S3
S4
R1
R11
R21
R31
BO1
BO2
BO3
BO4
X1
X2
X3
TS1
TS2
TS3
TS4
TS5
TS6
C56
C55
C54
C53
C18
C67
C33
C32
C34
C35
C31
C22
C23
C25
C24
C21
C13
C12
C14
C15
C11
C3
C2
C5
C1
C62
C57
C8
C9
C6
C7
C16
C17
C39
C38
C37
C36
C66
C65
C64
C63
C51
C52
C49
C50
C47
C48
C45
C46
C44
C43
C42
C41
C40
C29
C30
C28
C20
C27
C10
C26
C61
C60
C59
C58
D3
D4
D2
D1
D31
D32
D33
R108
R107
R106
R105
R104
R103
R102
R101
1
16
5
10

5.7 PART LIST LBB 1274/01 4-CHANNEL INPUT MODULE

Code number	Description
5322 447 54024	Front plate
5322 105 14051	Potentio meter 10 k
5322 414 26396	Knob
5322 267 54221	Socket (8-p 262°)
5322 130 34959	LED TLG 123A (green)

INSTRUCTIONS FOR USE

4 Channel Universal Input LBB 1274/01 with modified input priority

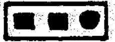
All modules, type LBB 1274/01, bearing serial numbers from 10 000 onwards are delivered with input channel 4 preset to function as a functional music input. This means that the output from channel 4 will be interrupted during periods when input channel 1, 2 or 3 is activated.

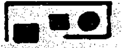
System description

- B:M:S jumper block on main p.c.b. in position "S".
  Input channels 1, 2 and 3 have priority over input channel 4 (Status indicator lamp and audio output will be switched off). After input channels 1, 2 and 3 are switched off, channel 4 is automatically switched on again. Channel 4 can be switched off at any time.
- B:M:S jumper block on main p.c.b. in position "M".
  Input channels 1, 2 and 3 have priority over channel 4. Channels 1, 2 and 3 can be switched on simultaneously. Channel 4 functions as in the serial priority mode.
- B:M:S jumper block on main p.c.b. in position "B".
  When an input channel (1, 2 or 3) is switched on, channel 4 is switched off and the other two channels are 'blocked' and may not be switched on.
  Channel 4 functions as in the serial priority mode.

By changing three soldered connections on the printed circuit board (points A, B and C), the function of input channel 4 can be altered to that of a normal SQ6 universal input with the same priority possibilities as channels 1, 2 and 3.

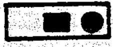
- Points A and B


B

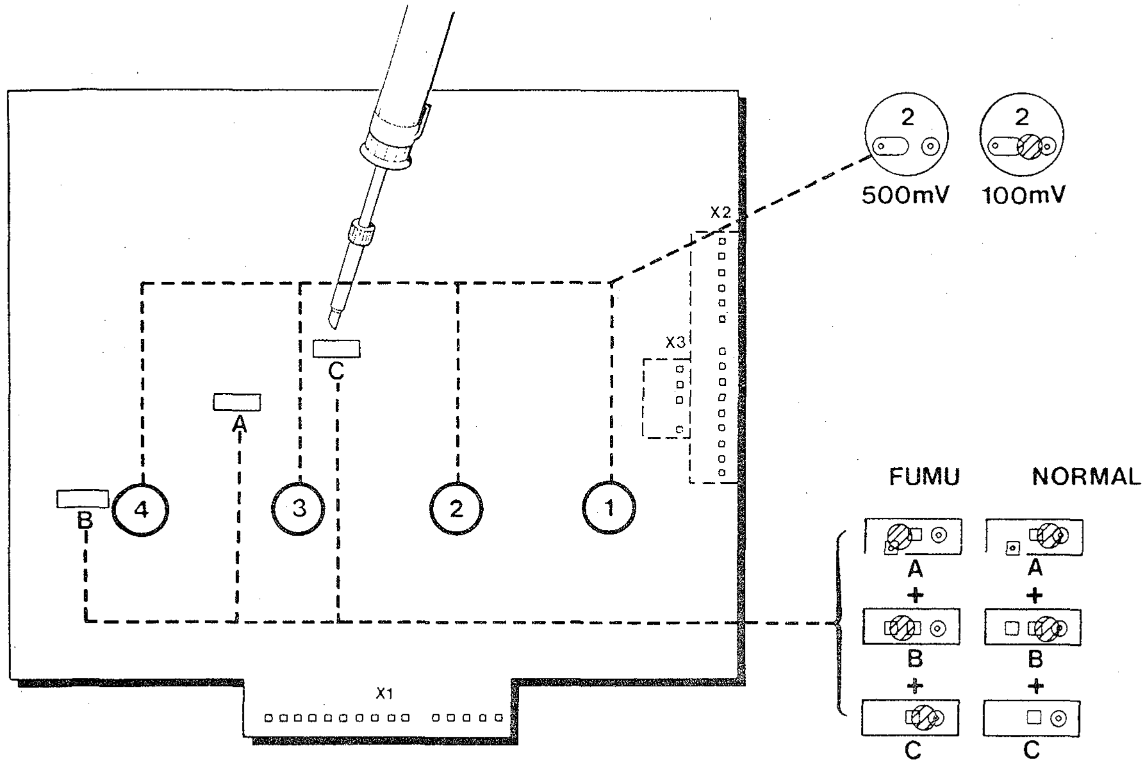

A

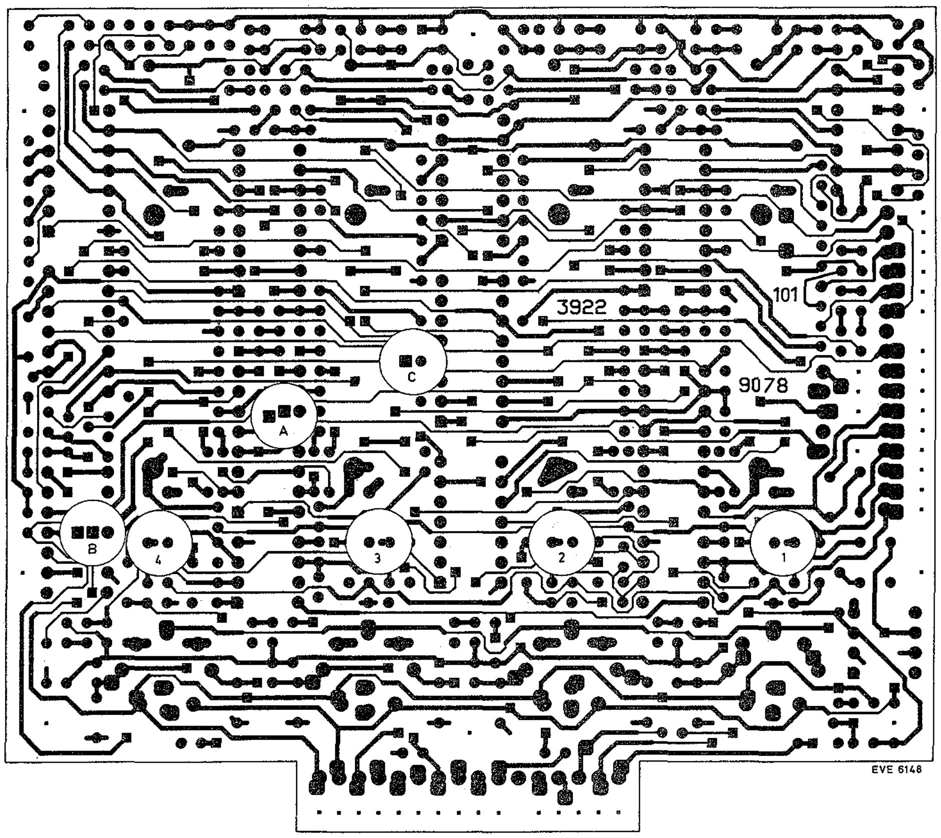
Remove the solder connections between the two pads and make solder connections between the centre pad and the other one.

- Point C

C


Remove the solder connection between the two pads as shown.


2
500mV
2
100mV
X2
X3
C
A
B
4
3
2
1
X1
FUMU
NORMAL
A
+
B
+
C
A
+
B
+
C


C
A
B
EVE 6148

1982.06.14	LBB 1274/02	Eb 864
Already published		

To avoid the influence of electrostatic discharge and strong HF radiation on the proper working of the LBB 1274/02, this module has been re-designed, together with some other modules of the SQ6 system (see also Eb 863, 865, 866 and 867).

The modification concerns the following parts:

1. Addition of a HF choke L1 (toroid) in the lead of the wiper of the volume control to the p.c. board.

2. Change of the typenumber of IC3 from µA 741CN into LF356N.

The modified modules LBB 1274/02 can be identified by the serial number from 3091 onwards.

ELA SERVICE INFORMATION

PHILIPS

1982.06.14	LBB 1271/02 LBB 1271/03	Eb 865
Already published		

To avoid the influence of electrostatic discharge and strong HF radiation on the proper working of the LBB 1271/02 and 1271/03, these modules have been re-designed, together with some other modules of the SQ6 system. (See also Eb 863, 864, 866 and 867).

Although the type numbers have not been changed, the modified module can be identified by the serial number from 10.000 onwards.

As the chime-initiate-pulse from the 4-channel input module LBB 1274/01 has been changed for the same reason as mentioned above, we strongly advise you to use only the combination new-new (or old-old) for the above mentioned modules together in one SQ6 system.
The modified modules LBB 1274/01 are also recognisable by the serial number from 10.000 onwards.

ELA SERVICE INFORMATION

PHILIPS

1982.06.14	LBB 1272/01	Eb 866
Already published		

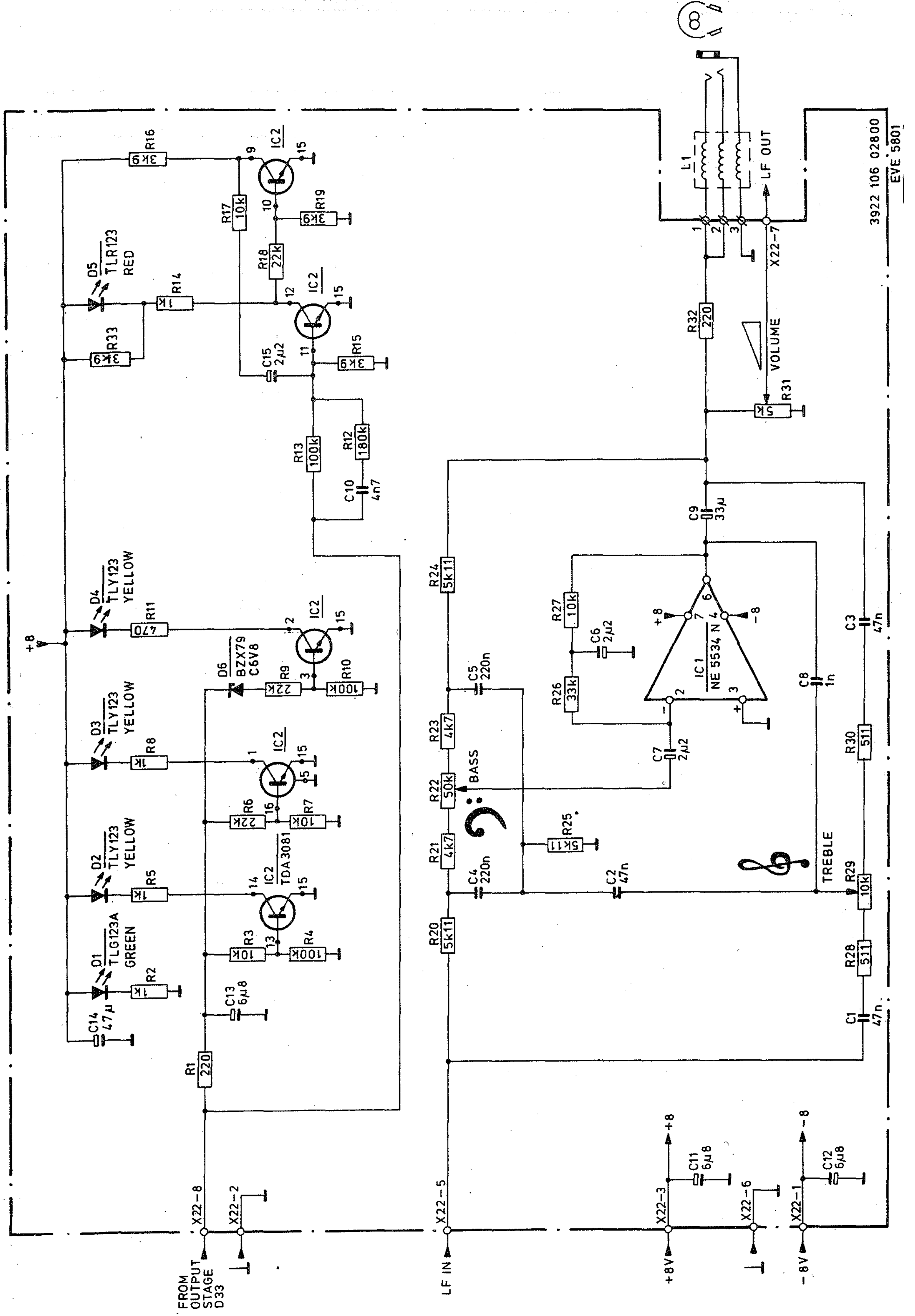
To avoid the influence of electrostatic discharge and strong HF radiation on the proper working of the LBB 1272/01, this module has been re-designed, together with some other modules of the SQ6 system. (See also Eb 863, 864, 865 and 867.)

The modification concerns the following part:

Addition of an HF choke L1 (toroid) in the leads to the headphone socket.

This modification is introduced in the master module, delivered in the amplifiers LBB 1262/00, 1263/00 and 1264/00.

For the master module LBB 1272/01, delivered as a separate typenumber, this modification will be introduced in future production.


R16 3k9
IC2
9
15
R17 10k
10
R19 3k9
R18 22k
12
IC2
15
D5 TLR123 RED
R14 1k
R33 3k9
C15 2μ2
11
R15 3k9
R13 100k
R12 180k
C10 4n7
D4 TLY123 YELLOW
R11 470
+8
2
IC2
15
D6 BZX79 C6V8
R9 22k
3
R10 100k
D3 TLY123 YELLOW
R8 1k
1
IC2
15
5
R6 22k
16
R7 10k
D2 TLY123 YELLOW
R5 1k
14
IC2 TDA3081
15
R3 10k
13
R4 100k
D1 TLG123A GREEN
R2 1k
C13 6μ8
C14 47μ
R1 220
X22-8
X22-2
FROM OUTPUT STAGE D33
R24 5k11
C5 220n
R23 4k7
R22 50k
BASS
R25 5k11
R21 4k7
C4 220n
C2 47n
R20 5k11
X22-5
LF IN
L1
1
2
3
LF OUT
X22-7
R32 220
VOLUME
R31 5k
C9 33μ
R27 10k
C6 2μ2
R26 33k
IC1 NE 5534 N
+8
-8
7
4
6
2
3
-
+
C7 2μ2
C8 1n
C3 47n
R30 511
TREBLE
R29 10k
R28 511
C1 47n
3922 106 02800
EVE 5801
+8
C11 6μ8
-8
C12 6μ8
X22-3
X22-6
X22-1
+8V
-8V

3.9 MASTER MODULE
LBB 1272/01

1982.06.04	LBB 1262/00, 1263/00, 1264/00	Eb 867
Already published		

A. To avoid the influence of electrostatic discharge and strong HF radiation on the proper working of the LBB 1262/00, 1263/00 and 1264/00 these amplifiers have been redesigned, together with some modules of the SQ6 system. (See also Eb 863, 864, 865 and 866).

The modification concerns the following parts:

1. Addition of two capacitors C61 and C62 each with a value of 100 pF between the base and the emitter of TS10 and TS11 respectively.

2. Change of the type number of IC6 from NE5534AN to LF356N. (Service code number for IC LF356N: 5322 209 86451)

3. Addition of an HF choke L1 (toroid) in the leads to the headphone socket of the master module LBB 1272/01 (For detailed information see Eb 866).

The modified amplifiers can be identified by the serial numbers:
LBB 1262/00 : from 2.500 onwards
LBB 1263/00 : from 2.685 onwards
LBB 1264/00 : from 1.585 onwards

B. The type number of diodes D3 and D4 is BZV46 - 1V5.
The service code number is 5322 130 34865.

ELA SERVICE INFORMATION

PHILIPS

11.11.1982	SQ 6 : LBB 1262/00	Eb 870
Already published		

From serial number 2740 onwards, the value of the resistors R34 and R35 in the LBB 1262/00 has been changed from 390E into 301E.

The reason for this modification is that the protection circuit operates too soon.

From serial number 1360 to 2740, it might be necessary to introduce the above mentioned modification.

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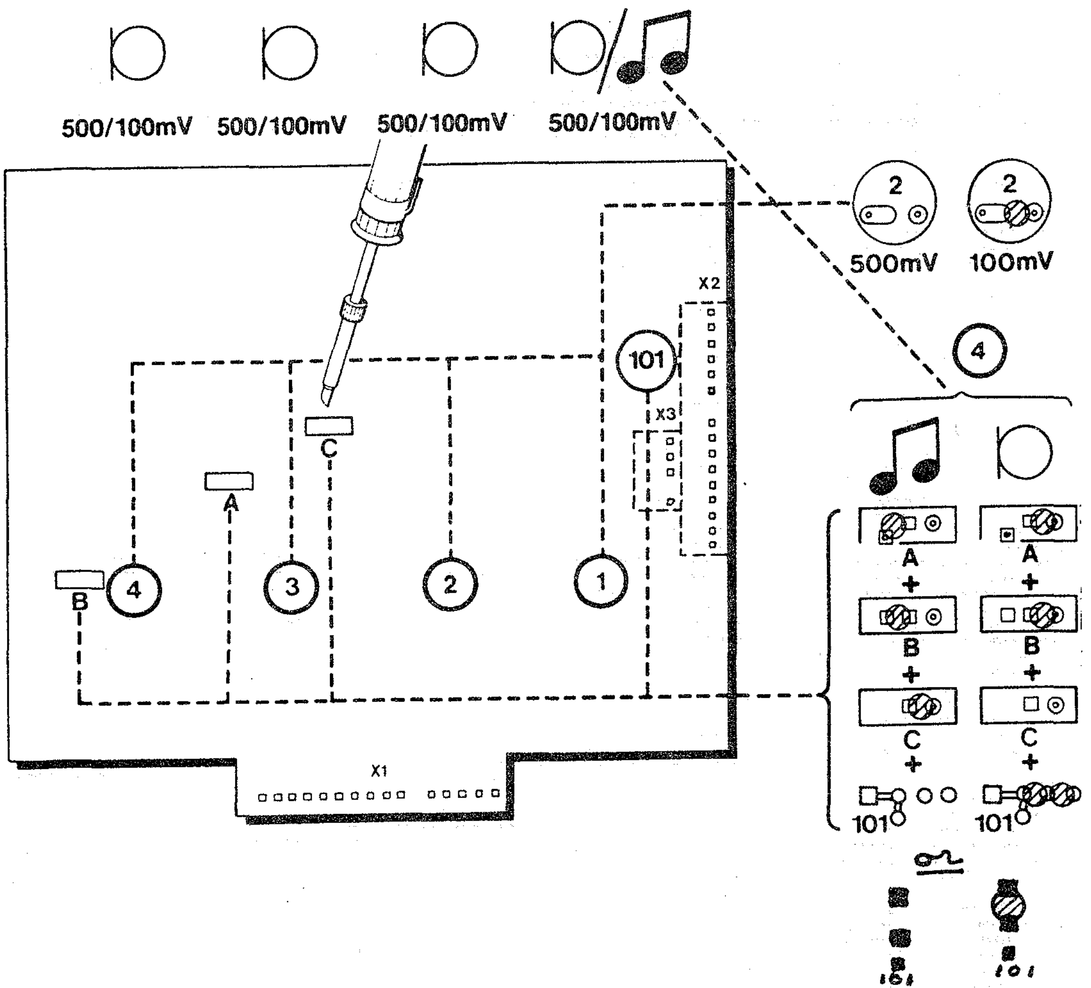
ELA SERVICE INFORMATION

PHILIPS

1983-04-19	LBB 1274/01	Eb 886
Already published	Valid from serial no. 10.000	

The input module LBB 1274/01 is factory preset for Fumu. Eb 863 explains how to modify for the four microphone input function. If the modification is done according Eb 863, then the blocking mode is not working properly. To correct this error an extra solder jumper in the neighbourhood of the printed figure 101 on the prent has to be provided.


500/100mV
500/100mV
500/100mV
500/100mV
2
2
500mV
100mV
X2
101
X3
C
A
B
4
3
2
1
4
A
+
B
+
C
+
101
A
+
B
+
C
+
101
X1
101
101

8304.011

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Service Information

Advanced Automation Systems
Audio-communications
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Scientific & Analytical Equipment
Test and Measurement

Industrial & Electro-acoustic Systems Division

cat. **TIPS**	nr. **TI025**	**TI025PA022**	date **26.03.1986** rev.
art. gr. **PUBLIC ADDRESS**	nr. **PA022**		sheet 1 of 1

Product	:	Modular P.A. centre SQ6
Service manual	:	4822 733 23925
Reason	:	Protection for MOS circuit components.
Contents	:	Installation of the SQ6 modular centre

When during installation the modules become connected with the flat cables on the mother board, it is very important that no supply is present on the mother board of the SQ6 unit. The ON/OFF switch has to be in the OFF position. For sure it is better to disconnect the mains cable.

G.J. Haselager